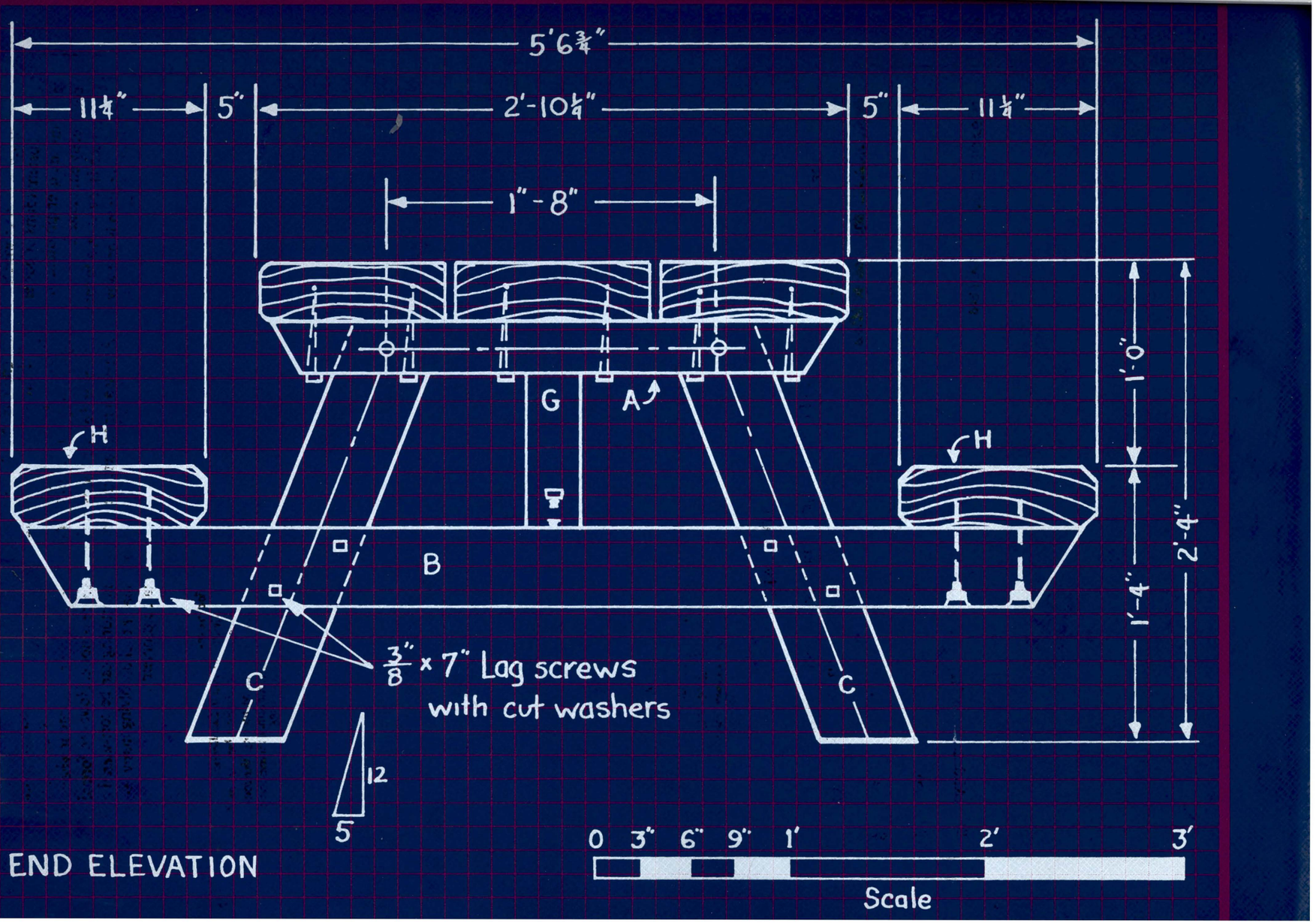
191.66
.U53
1987
STO

RECREATION FACILITIES DESIGN CATALOG

United States
Department of
Agriculture

Forest
Service



RECREATION FACILITIES DESIGN CATALOG

United States
Department of
Agriculture

Forest
Service

[1987]

Table of Contents

General

Catalog Purpose and Use
Levels of Site Modification Chart
Full Size Drawings Order Sheet
Design Submission Sheet
Facility Performance Standards

Facilities

Camping Spurs
Tables
Benches
Fireplaces
Signs
Toilets
Water Hydrants
Water Play
Shelters
Stock Facilities
Ramps
Trails
Steps
Bridges
Walls
Barriers/Fences
Gates

Recreation Facilities

Catalog Purpose and Use

The objective of National Forest recreation management is to provide outdoor opportunities and activities that encourage the study and enjoyment of nature, highlight the importance of conservation, provide scenic and visual enjoyment, and instill appreciation of the nation's history, cultural resources and traditional values.

We provide recreation sites and facilities to enhance the American public's interaction with their natural resources. Through the provision of quality facilities for camping, picnicking, swimming, boating, hiking, trail riding, and many more activities, we encourage the public to "get outdoors". Forest land recreation provides relaxation, renewal, education, stimulation, character development and fellowship. We can both welcome the Forest visitor and protect the environment from concentrated use by designing and maintaining appropriate recreation facilities.

This catalog is intended to provide an index of facility designs approved for national application. It is a working tool for field use. However, it is not a completed document. This catalog is intended, by its looseleaf format, to be periodically updated and improved as quality designs are contributed.

A quality design meets the following criteria:

- enhances the user's interaction with the natural environment
- ensures public health and safety
- protects the natural environment of the site
- conforms to the National Forest recreation role
- accommodates the needs of disabled users
- provides experiences that are appropriate for the development scale
- considers cost efficiency in construction and maintenance

The criteria used to design specific recreation facilities are listed in the Facility Performance Standards section of this catalog. If you are using a design that meets this criteria, that is not already included in this catalog, you should share it with us. To contribute a design, field units should sketch construction plans on a copy of the enclosed sample submission sheet or utilize computer assisted drafting methods to create a similar format. Proposed designs should be approved through Forest Supervisor's offices and Regional Office recreation groups. They will review and forward acceptable designs to the Washington office recreation management group. Periodically, all offices will be sent catalog supplements as this working tool is improved.

The catalog can be used for facility replacement in kind, replacement with a different kind and addition of facilities. The steps are quite simple:

To Replace a Facility with the Same Kind

1. Review the Levels of Site Modification Chart in this catalog and the Development Scale/ROS Class of the site or area where the facility is located. The RIM Basic Address Record FS 2300-2 lists the Development Scale and ROS Class. Decide if the replacement unit is appropriate considering the present standards. Consider the needs of disabled visitors. Facilities in this catalog that accommodate these needs are designated with the international symbol of accessibility.

2. Look for the facility design in the appropriate section of this catalog. If you do not find the design in this catalog, it is not approved for national application. However, it may be regionally approved. Check with your Forest or Regional Landscape Architect to ensure that the design is appropriate, or select an alternative approved design. Your Supervisor's Office or Regional Office can provide detail drawings for regionally approved designs. Submit quality regionally approved designs for inclusion if they differ substantially from the catalog designs.

3. Verify your choice with the Forest Landscape Architect and District Ranger. Consult with the District Recreation Technicians concerning the design's maintenance requirements.

4. Make duplicate working copies of the selected design

for your use and return the original to its place in the catalog.

5. If you need full size drawings or additional detail sheets to complete sets of plans in this catalog, then use a copy of the Order Sheet in this section to obtain what you need from the Regional office that is listed on the detail title block. Refer to the detail by number or enclose a copy with your request.

To Replace a Facility with a Different Design or To Add a New Facility

1. Review the Levels of Site Modification Chart in this catalog and the Development Scale/ROS Class of the site or area where the facility is located. The RIM Basic Address Record FS 2300-2 lists the Development Scale and ROS Class. Review the Facility Performance Standards for the particular facility type.

2. Check the Table of Contents to determine the section of this catalog you are seeking. Review the designs in that section, and select one appropriate to Development Scale/ROS Class. Consider the needs of disabled visitors. Facilities in this catalog that accommodate these needs are designated with the international symbol of accessibility. If you do not find an appropriate design in this catalog, your Supervisor's Office or Regional Office may be able to provide design expertise. Submit new designs for inclusion in this catalog.

3. Verify your selection with the Forest Landscape Architect and the District Ranger. Consult with the District Recreation technicians concerning the design's maintenance requirements.

4. Make duplicate working copies for your use and return the original to its place in the catalog.

5. If you need full size drawings or detail sheets to complete sets of plans in this catalog, then use a copy of the Order Sheet in this section to obtain what you need from the Regional Office that is listed on the detail title block. Refer to the detail by number or enclose a copy with your request.

6. Revise the RIM Facility Condition Record FS 2300-6 to reflect the facility addition or replacement at the next update.

Levels of Site Modification: Development Scale/ROS Class Chart

Recreation opportunity spectrum class	Development scale	
Primitive	1	Minimum site modification. Rustic or rudimentary improvements designed for protection of the site rather than comfort of the users. Use of synthetic materials excluded. Minimum controls are subtle. No obvious regimentation. Spacing informal and extended to minimize contacts between users. Motorized access not provided or permitted.
Semi-primitive (Motorized and nonmotorized)	2	Little site modifications. Rustic or rudimentary improvements designed primarily for protection of the site rather than the comfort of the users. Use of synthetic materials avoided. Minimum controls are subtle. Little obvious regimentation. Spacing informal and extended to minimize contacts between users. Motorized access provided or permitted. Primary access over primitive roads. Interpretive services informal, almost subliminal.
Roaded natural	3	Site modification moderate. Facilities about equal for protection of site and comfort of users. Contemporary/rustic design of improvements is usually based on use of native materials. Inconspicuous vehicular traffic controls usually provided. Roads may be hard surfaced and trails formalized. Development density about 3 family units per acre. Primary access may be over high standard roads. Interpretive services informal, but generally direct.
Rural	4	Site heavily modified. Some facilities designed strictly for comfort and convenience of users. Luxury facilities not provided. Facility design may incorporate synthetic materials. Extensive use of artificial surfacing of roads and trails. Vehicular traffic control usually obvious. Primary access usually over paved roads. Development density 3-5 family units per acre. Plant materials usually native. Interpretive services often formal or structured.
Urban	5	High degree of site modification. Facilities mostly designed for comfort and convenience of users and usually include flush toilets; may include showers, bathhouses, laundry facilities, and electrical hookups. Synthetic materials commonly used. Formal walks or surfaced trails. Regimentation of users is obvious. Access usually by high-speed highways. Development density 5 or more family units per acre. Plant materials may be foreign to the environment. Formal interpretive services usually available. Designs formalized and architecture may be contemporary. Mowed lawns and clipped shrubs not unusual.

Levels of Site Modification: Development Scale ROS Class Chart

Forest Service • USDA

Facility Performance Standards

Camping Spurs

1. Design considers site features, type of use expected and type of development affordable.
2. Protection and reinforcement of sites prevents erosion and site compaction.
3. Location provides protection from flooding conditions.
4. Provides a relatively flat space for tent use, trailer use, other associated support facilities and camping equipment.
5. Design and materials harmonize with the Recreation Opportunity Spectrum class and natural environment.
6. Provides the desired recreation experience for a particular area.
7. Construction materials exhibit durability and low maintenance characteristics.
8. Location provides a relatively flat, well-drained area for tent camping.
9. Constructed to be clear of overhead branches extending into the site.
10. Surface of site is clear of debris, roots and other imperfections.
11. Unit is of sufficient size to accommodate anticipated camping equipment.

Tables

1. Permits comfortable seating of a minimum of six persons, with adjustments for handicapped where appropriate.
2. Permits easy food distribution.
3. Design and materials harmonize both visually and physically with the site and designated Recreation Opportunity Spectrum class.
4. To be structurally sound i.e. not tilt or give user an unstable feeling when in use.
5. Designed for stationary or moveable installation.
6. Design is as splinter and hazard free as practical.
7. Unit has sufficient strength to withstand anticipated snow loads and live loads.

Benches

1. Provides sufficient size, number and configuration to accommodate anticipated users.
2. Constructed of sturdy, durable material that is weather and vandal resistant and readily replaced.
3. Design and materials harmonize with the site environment, design theme and Recreation Opportunity Spectrum class.
4. To be structurally and visually sound i.e. not tilt, shouldn't give user an unstable feeling and yet support snow load where necessary.
5. Provides a comfortable sitting height of 18″ to 24″.
6. Design is as splinter free and hazard free as practical.

Fireplaces

1. Provides for cooking activities on appropriate unit designs.
2. Contains fire and coals to prevent injury to persons or damage to natural resources.
3. Constructed of a durable, fireproof material with a high melting point.
4. Is free of safety hazards.
5. Designed for low construction and maintenance cost without losing its function.
6. Does not require refinishing.
7. Appropriate units are designed and installed at a comfortable height for cooking.
8. Utilizes ground surface reinforcement or hardening in areas of high use around units.
9. Accommodates anticipated normal number of users.
10. Provides drainage to prevent water from accumulating within unit.
11. Utilizes "stay cool" type adjustment handles on units that require height adjustment of cooking surface.
12. Utilizes a secure anchoring system that discourages theft and vandalism.

13. Located for ease of use.
14. Harmonizes with the character of the existing site features and type of experience level desired.
15. Provides for ease of cleanout.
16. Must not retain water at ground surface.
17. Perimeter is raised to prevent flooding from surface drainage (4″ minimum).
18. Size of unit is appropriate to anticipated number in group.
19. Permits visibility for safety.

Picnic Shelters

1. Construction materials are water durable and resist scratching, writing on, removal, breakage, rotting, mildew and rusting.
2. Allows for easy replacement of materials.
3. Sufficiently accommodates anticipated number of users.
4. Provides for access by the handicapped where appropriate.
5. Provides sufficient surface drainage control.
6. Meets or exceeds applicable health and safety codes.
7. Has nonslip finish floors.
8. Location allows easy access to potable water source.
9. Location allows easy access to sanitary facilities.
10. Location permits sufficient amount of parking within easy walking distance to shelter.
11. Withstands snow load and wind uplift.
12. To be structurally and visibly sound i.e. not tilt or give user an unstable feeling.
13. Provides fire containing cooking facility within or close by.
14. Structure and materials harmonize with site environment, design theme and Recreation Opportunity Spectrum class.
15. Reinforcement of site surfaces provides necessary erosion control and protection to adjacent vegetation from compaction.
16. Structure exhibits low maintenance and construction costs and yet accomplishes performance requirements.

Entry Stations

1. Located where control of entering vehicles is necessary.
2. Size accommodates anticipated number of users and permits effective operation.
3. Provides for "drive through" and space for vehicles to pull out of traffic lane to stop.
4. Shelters employee adequately during working hours.
5. Designed of easily acquired and cost efficient materials.
6. Meets or exceeds applicable health and safety codes.
7. To be as theft and vandal proof as practical.
8. Structure and materials harmonize with site environment, design theme and Recreation Opportunity Spectrum class.

Hitching Rails

1. Constructed of readily available, low maintenance, durable material that harmonizes visually and physically with the site.
2. Located in close proximity and preferably downwind from camping areas.
3. Constructed on soil suitable for horse use.
4. Designed to be of sufficient strength to avoid being pulled apart or out of the ground by horses tethered to it.
5. Located far enough from stream to minimize horse waste pollution.

Horse Corrals

1. Located in accordance with site plans.
2. Constructed of readily available, low maintenance, durable materials that harmonize visually and physically with the site.
3. Constructed on soil suitable for horse use.
4. Located far enough from stream to minimize horse waste pollution.
5. Located in close proximity to camping areas and/or loading and unloading facilities.

Horsestalls

1. Constructed of readily available, low maintenance durable materials that harmonize with the site.
2. Located in close proximity to camping areas and trailheads, preferably downwind.
3. Located far enough from stream to minimize horse waste pollution.
4. Design of the stall provides for horse safety.
5. No paint or stain is used on this structure.
6. Design minimizes potential damage by horses.

Ramps—Horse and Motorcycle Unloading and Loading

1. Constructed at appropriate height for anticipated user vehicles to unload and load.

2. Designed at a safe slope and with a safe surface for unloading and loading horses and motorcycles.
3. Reinforced at key points on ramps to withstand contact with vehicles.
4. Located in an area that permits ease of unloading and loading.

Signs

1. Is located in a visible and well traveled or strategic place.
2. Design and materials resist water damage, scratching, writing on, mildew, removal, rotting and general vandalism.
3. Constructed of material that is readily available for replacement purposes.
4. Exhibits adequate size and dimension to serve the intended purpose.
5. Design allows for cost efficiency while satisfying design function.
6. Allows for ease of updating displayed information.

Toilets

1. Is of sufficient size to accommodate anticipated number of users.
2. Is well ventilated to keep objectional odors at a minimum.
3. Ensures good ventilation by taking advantage of heat convection and prevailing winds through proper building orientation.
4. Interiors are easily maintained and suitable for hosing down by maintenance personnel. Smooth nonporous surfaces are utilized.
5. Provides good drainage on floors to eliminate standing water.
6. Designed for sufficient natural lighting during daytime use.
7. Interior materials are resistant to scratching, writing on, removal, breakage, rotting, odor retention, mildew, and rusting.
8. Provides adequate space to serve handicapped in specific units and locations where appropriate.
9. Structure and materials harmonize with site environment, design theme and Recreation Opportunity Spectrum class.
10. Symbol signs on exterior indicate single sex or either sex usage.
11. Located to reduce resource damage and provide for ease of pump out and maintenance.
12. Designed of materials that can be readily replaced.
13. Designed for low long term maintenance.
14. Meets all applicable health and safety codes.
15. Designed for lowest cost to accomplish all other performance functions.
16. Provides nonslip finish on floors.
17. Maximizes potential for prefabrication techniques in construction.
18. Constructed only in areas where acceptable pump out and waste disposal methods are available and will continue to be available.

Water Hydrants

1. Permits easy dispensing of water to all users including the handicapped.
2. Constructed of materials that are visually and physically harmonious with the site and Recreation Opportunity Spectrum class.
3. Units are sturdy, weather resistant, vandal resistant and hazard free.
4. Meets all appropriate health and safety codes.
5. Designed for cost effectiveness and low maintenance.
6. Constructed of readily available materials.
7. Permits ease of cleanup and is clog resistant.

Depth Markers

1. Designed to be an easily readable water depth indicator.
2. Constructed of materials that are decay resistant and require low maintenance.
3. Design should allow for ease of anchoring and removal.

Lifeguard Stand

1. Located where lifeguard can see every part of the swimming area without turning his head. This is usually 25 feet back from the water and midway between guarded limits.
2. Constructed high enough so lifeguard can see over all waterfront equipment.
3. Designed with optional shading device to shade lifeguard's eyes.
4. Constructed of sturdy, weather resistant materials that are able to support a live load of 300 lbs.
5. Design provides for an enclosed compartment to store equipment or materials.
6. Meets applicable water safety and health standards.
7. Design of unit and materials used harmonize with the site environment and design theme.
8. Designed of cost efficient, readily available materials.
9. Unit is adaptable to a stationary or moveable yet sturdy installation.

Life Ring Station

1. Constructed of sturdy materials with proper installation and footings for low maintenance and durability.
2. Located where it is clearly visible, above the high water level and close to the water's edge.
3. Station is equipped with a buoyant life ring and line that meet safety standards.

Waterway Markers

1. Designed to be an easily readable channel or area boundary marker.
2. Constructed of materials that are decay resistant and require low maintenance.
3. Design should allow for ease of anchoring and removal.
4. Design and coloring should comply with boat regulation standards.

Bathing Screens and Change Stalls

1. Construction materials are water durable and resist scratching, writing on, removal, breakage, rotting, mildew and rusting.
2. Permits ease of maintenance.
3. Allows for easy replacement of material.
4. Insures privacy because of sufficient height and other design features.
5. Meets or exceeds applicable health and safety codes.
6. Provides floor drainage to eliminate standing water.
7. Designed with a nonslip floor surface.
8. Sufficiently accommodates anticipated number of users.
9. Provides adequate seating space.
10. Provides adequate space or hooks for placing clothes while changing.
11. Ventilates all areas sufficiently.
12. Maximizes prefabrication flexibility for economic construction and replacement.
13. Design serves function at low cost.
14. Located to minimize resource damage and yet serve intended function.
15. Exterior indicates sex separations.
16. Structure and materials harmonize with site environment, design theme and Recreation Opportunity Spectrum class.
17. Provides for access by the handicapped where appropriate.

Boat Ramps

1. Construction materials are water durable and easily maintained.
2. Provides sufficient ramp width and slope for safety and ease of boat launching from boat trailers.
3. Structure must be able to support weight of a vehicle and trailer with boat.
4. Design allows for ease of ingress and egress of vehicles with trailers.
5. Provides adequate parking for vehicles with boat trailers in accessible location to launching ramp.
6. Provides rough textured ramp surface for good tire traction.

Ramps-Pedestrian

1. Provided where persons and bicyclist encounter abrupt changes in grade.
2. Constructed using a hazard free nonslip surface.
3. Constructed at a 1 on 12 slope or less to accommodate wheelchair use.
4. Provides level rest platforms every 30 feet or less for ramps of a greater distance. Level platforms are also provided whenever a change of direction occurs.
5. Design has curbs along sides to act as wheelchair brakes and prevent them from running off the ramp.
6. Design provides for at least 5′-0″ straight clearance at the bottom of ramps.
7. Handrails are provided as necessary for safety reasons. Handrail requirements include a low rail at 1′-7″ above ramp and a top rail at 2′-9″ above the ramp.

Trails

1. Create a travelway appropriate to the character of the destination.
2. Provides a safe, hazard free travelway.
3. Constructed at a gradient appropriate to the use and experience desired.
4. Visually and physically harmonizes with the site.
5. Constructed of suitable, cost efficient, readily available material.
6. Its width permits comfortable passing of anticipated traffic.

Steps

1. Provides comfortable access and transition where necessary to cross changes in grade.
2. Constructed of material compatible with surroundings.
3. Tread depth is a minimum of 12″.

4. Riser height is a maximum of 6″.
5. Constructed of hazard free, slip resistant materials.
6. Design provides for a minimum of 2 stairs in each application.
7. Provides a level rest platform every 10 stairs in each application.
8. Handrails are provided as necessary for safety reasons. Handrail requirements include a low rail at 1′-7″ above steps and a top rail at 2′-9″ above the steps.

Footbridges

1. Provides safe access where necessary to cross streambeds or breaks in terrain.
2. Construction is compatible with use and surroundings.
3. Design provides for adequate clearance between water surface and walk surface.
4. Constructed of a hazard free, non-slip surface, with handrails when appropriate.
5. Wood in contact with water or ground is preservative treated.
6. Footings and piers provided are designed to fit site situation.

Retaining Walls

1. Retains material on the backside from intruding into the area in front of or below the wall.
2. Designed and applied in locations where changes in grade or site plans require their use.
3. Constructed with native or other materials that are harmonious with surroundings and site plans.
4. Wood material used is preservative treated to prevent decay.
5. Construction meets safety and engineering requirements.
6. Dry wall construction has sufficient batter to prevent failure.

Barriers and Fences

1. Passively guards or separates an area or object.
2. Resists removal and vandalism.
3. Constructed of durable material, able to withstand stress expected from its particular situation or purpose.
4. Designed for cost efficiency while satisfying design function.
5. Units are relatively hazard free.
6. Designs and materials are visually and physically in harmony with the site and Recreation Opportunity Spectrum class.
7. Designed for low maintenance requirements.

Gates and Gate Signs

1. Units adequately discourage vehicles from entering area gated.
2. Materials are weather and vandal resistant.
3. Posts are spaced wide enough apart to allow vehicles to pass when appropriate.
4. Signs state clear and direct message.
5. Colors are appropriate to the area or are as specified by policy direction.
6. Designs facilitate attachment of Forest Service locks.

(Make copies of this original Submission Sheet for your use.)

*Include: Front Elevation, Side Elevation, Plan, Details, Materials List, Bar Scale.

Forest Service • USDA

Submission Sheet
Recreation Facilities Design Catalog

Submitted by _____

District/Forest/Region _____

Date _____ Detail # _____

Details Complete?

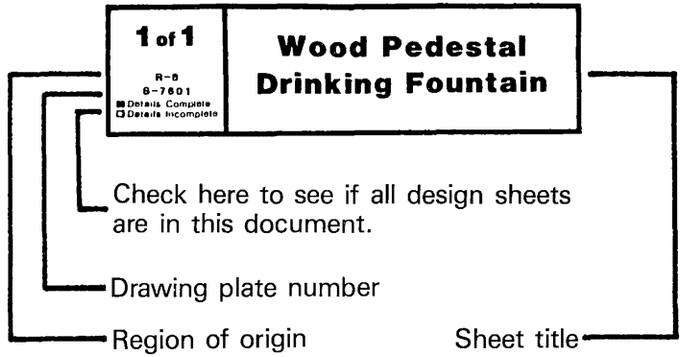
☐ Yes ☐ No

ORDERING PROCEDURE

Some of the design drawings in this document are portions of larger sets of drawings. Refer to the darkened square in the title block of each sheet to determine whether the details shown are complete or incomplete. Use a copy of this order sheet to order the complete sets and/or full size sheets of the drawings from the appropriate Regional Office. If the plate number is not shown in the title block, make a duplicate copy of the catalog drawing and send it in with the order sheet.

SHEET TITLE	DRAWING PLATE NUMBER	NUMBER OF COPIES REQUIRED	SPECIAL REQUIREMENTS

SAMPLE TITLE BLOCK



Please send plans to:

Project name:

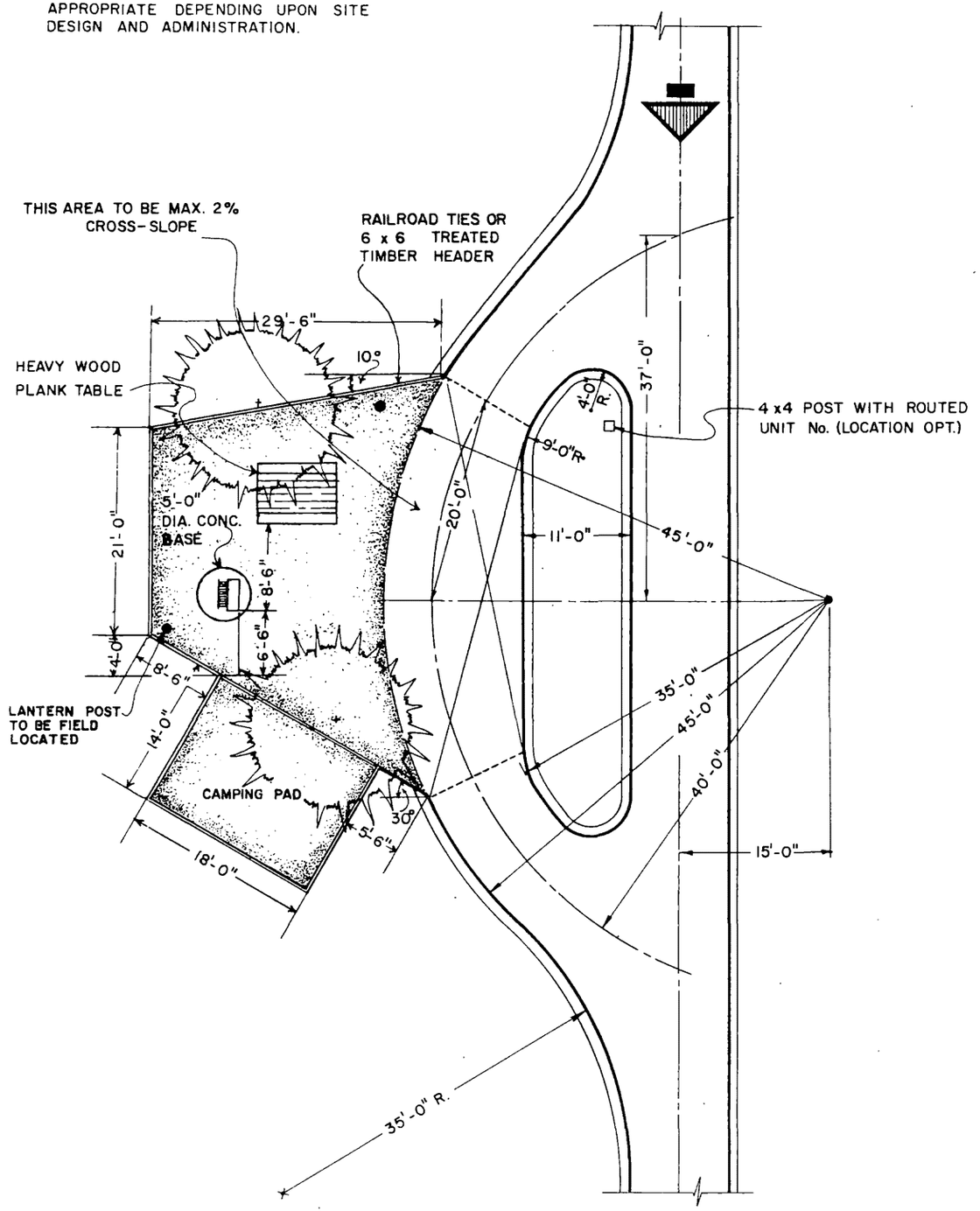
Date of this request:

Order Sheet
For Recreation Facility Drawings

Please Do Not Write On This Original Order Sheet
Make Copies For Your Use

Forest Service · USDA

NOTE:
CENTRAL GARBAGE COLLECTION MAY BE APPROPRIATE DEPENDING UPON SITE DESIGN AND ADMINISTRATION.



NOTES:
SHADED AREA TO BE REINFORCED WITH MATERIAL SELECTED BY THE LANDSCAPE ARCHITECT.

REINFORCED PAD TO BE DESIGNED TO ACCOMODATE SPECIFIC SITE CONDITIONS.

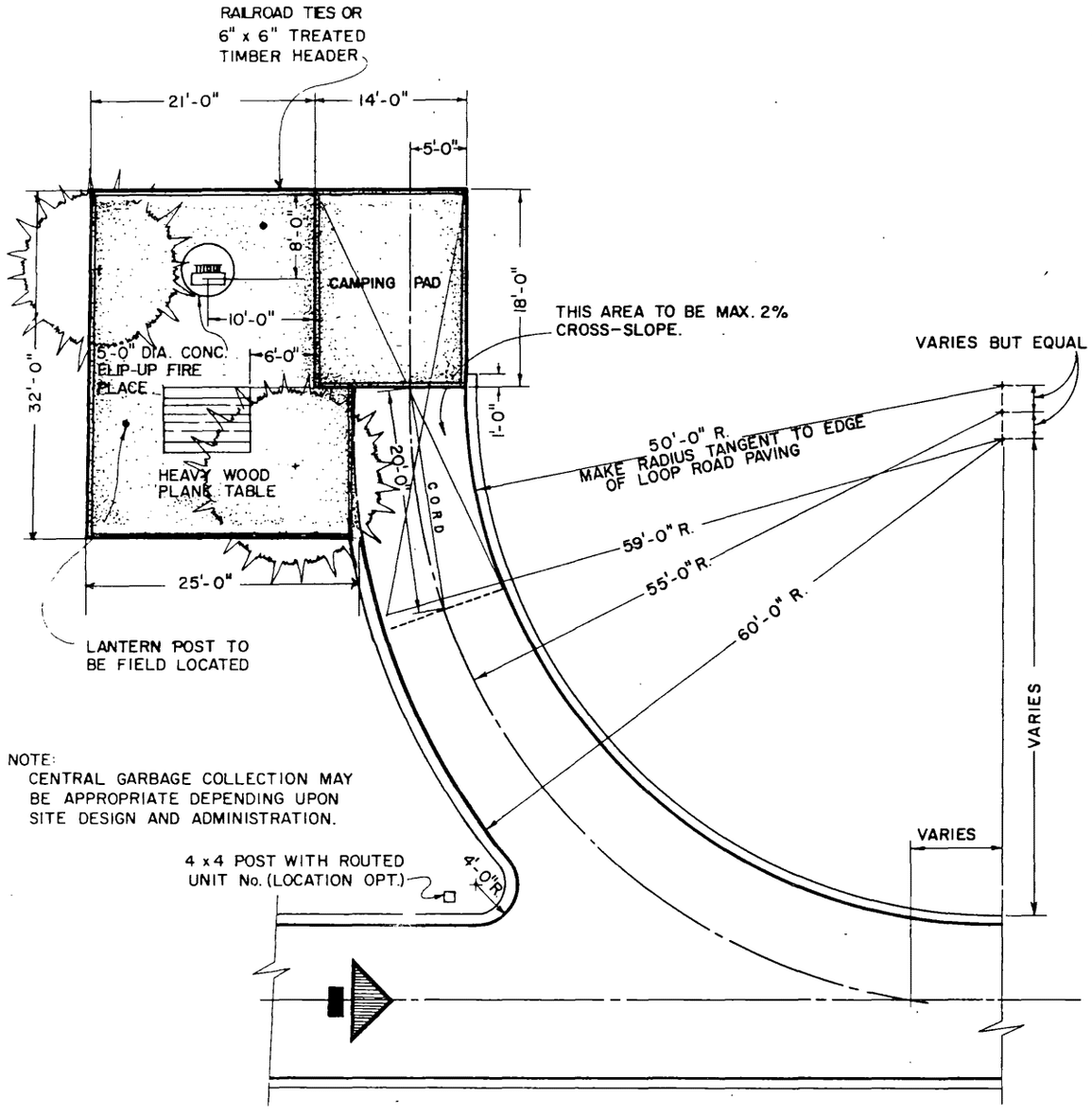
0' 8'
SCALE IN FEET

Pull-Through Camp Spur "A"

1 of 1

R-8
PI.22m-7003
■ Details Complete
□ Details Incomplete

Forest Service · USDA



NOTE:

SHADED AREA TO BE REINFORCED WITH MATERIAL SELECTED BY LANDSCAPE ARCHITECT.

REINFORCED PAD TO BE DESIGNED TO ACCOMODATE SPECIFIC SITE CONDITIONS.

0 4' 8' 12' 16' 20'

SCALE IN FEET

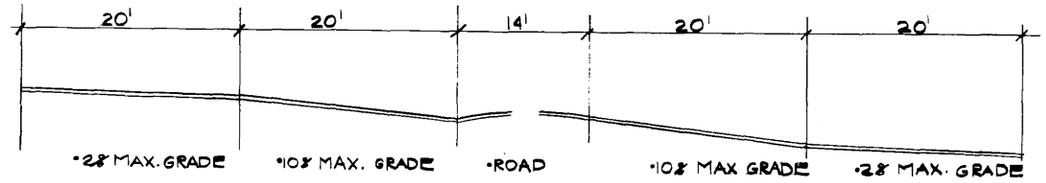
Curved Camp Spur

1 of 1

R-8
PI.22m-7002
■ Details Complete
□ Details Incomplete

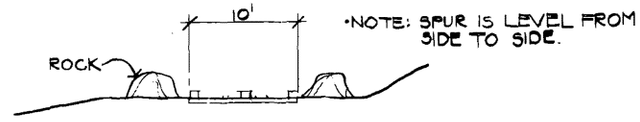
Forest Service · USDA

FOREST SERVICE
USDA
DEPARTMENT OF AGRICULTURE

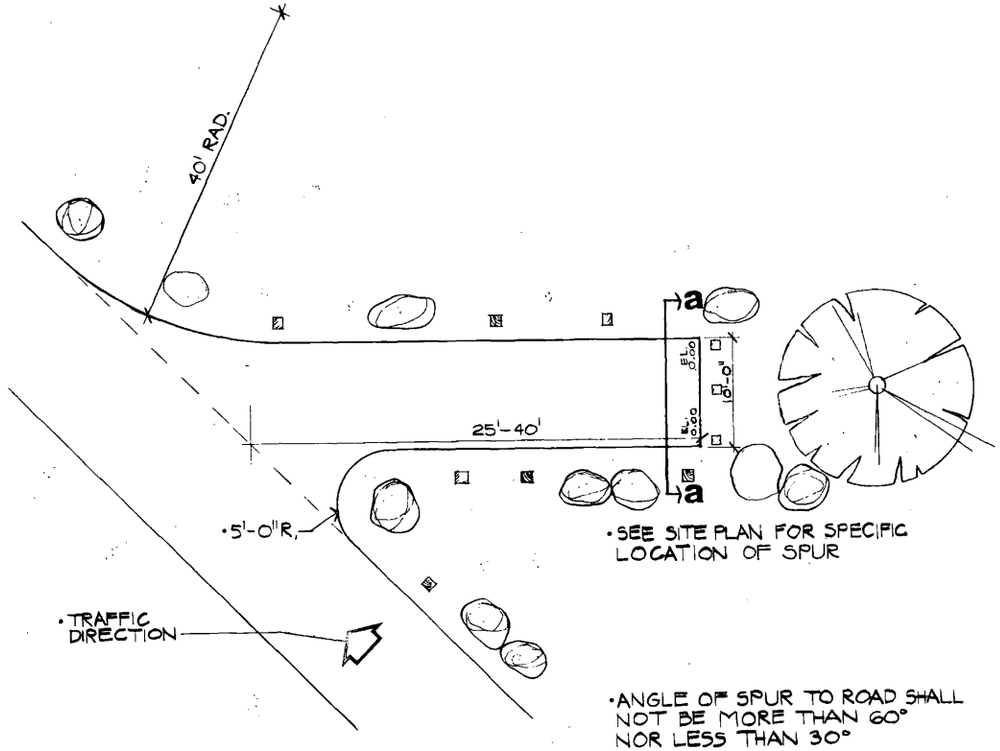


typical profile showing spur in cut or fill

NOTE:
THE 2% MAX. GRADE IS LOCATED AT THE BACK END OF THE SPUR SO THAT TRAILERS WILL BACK INTO THE SPUR TO BE PARKED ON THE FLATEST SECTION



section a-a



plan

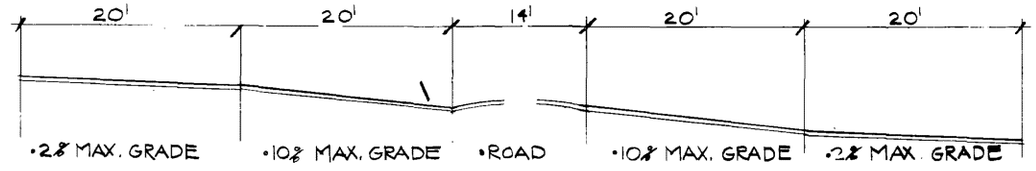
SCALE - 1/8" = 1'-0"

Single Camp Spur

1 of 1

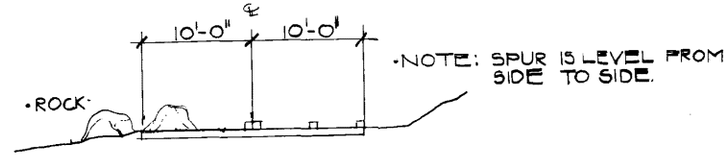
R-5
PI. B-4003
■ Details Complete
□ Details Incomplete

Forest Service · USDA

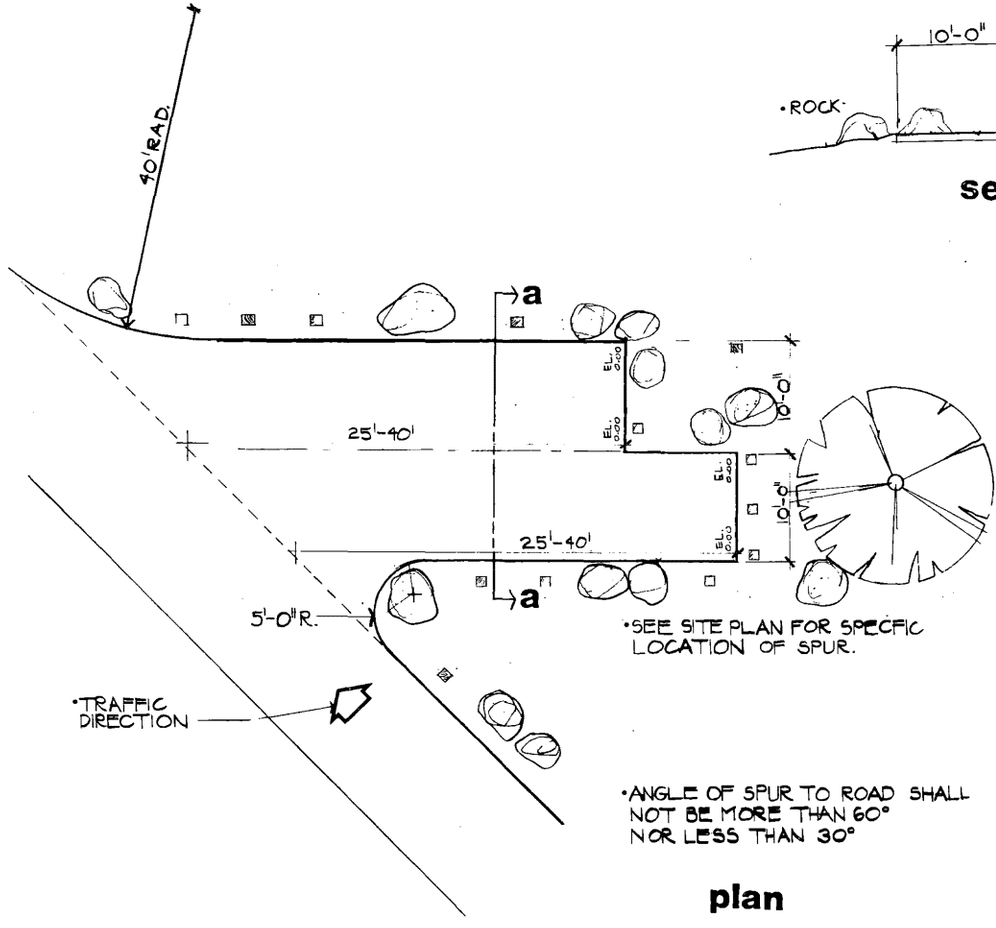


typical profile showing spur in cut or fill

NOTE:
THE 2% MAX. GRADE IS LOCATED AT THE BACK END OF THE SPUR SO THAT TRAILERS WILL BACK INTO THE SPUR TO BE PARKED ON THE FLATEST SECTION



section a-a



plan

SCALE 1/8"=1'-0"

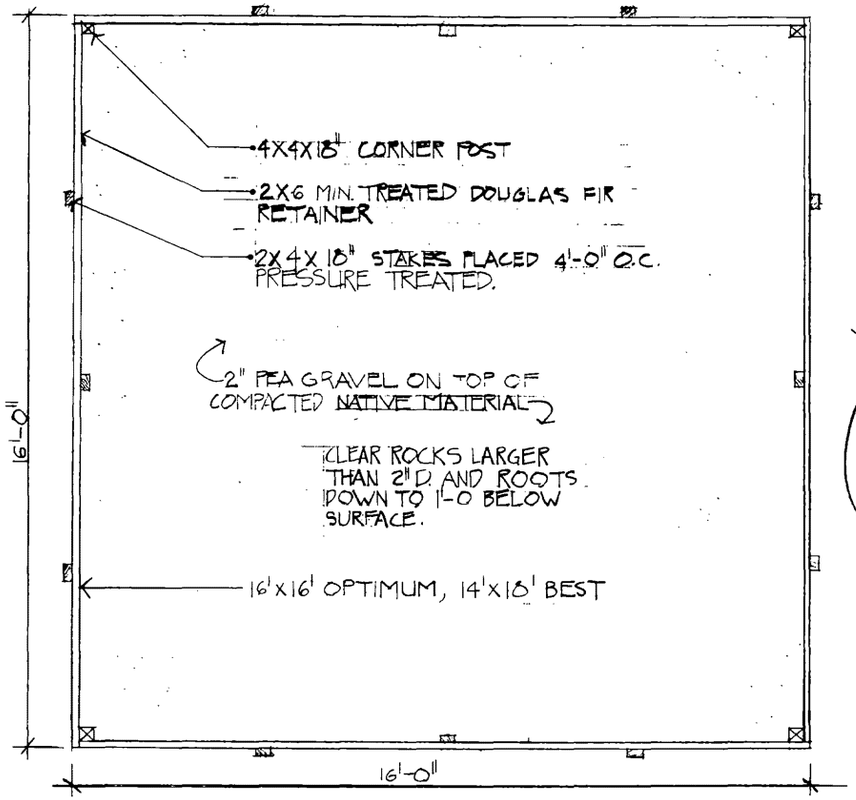
Double Camp Spur

1 of 1

R-5
PI.B-4004
■ Details Complete
□ Details Incomplete

Forest Service • USDA

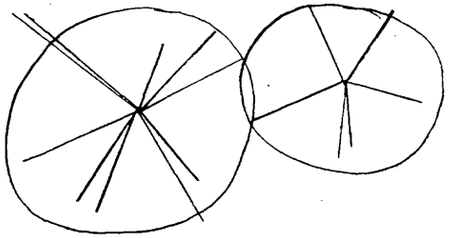
Typical Tent Site

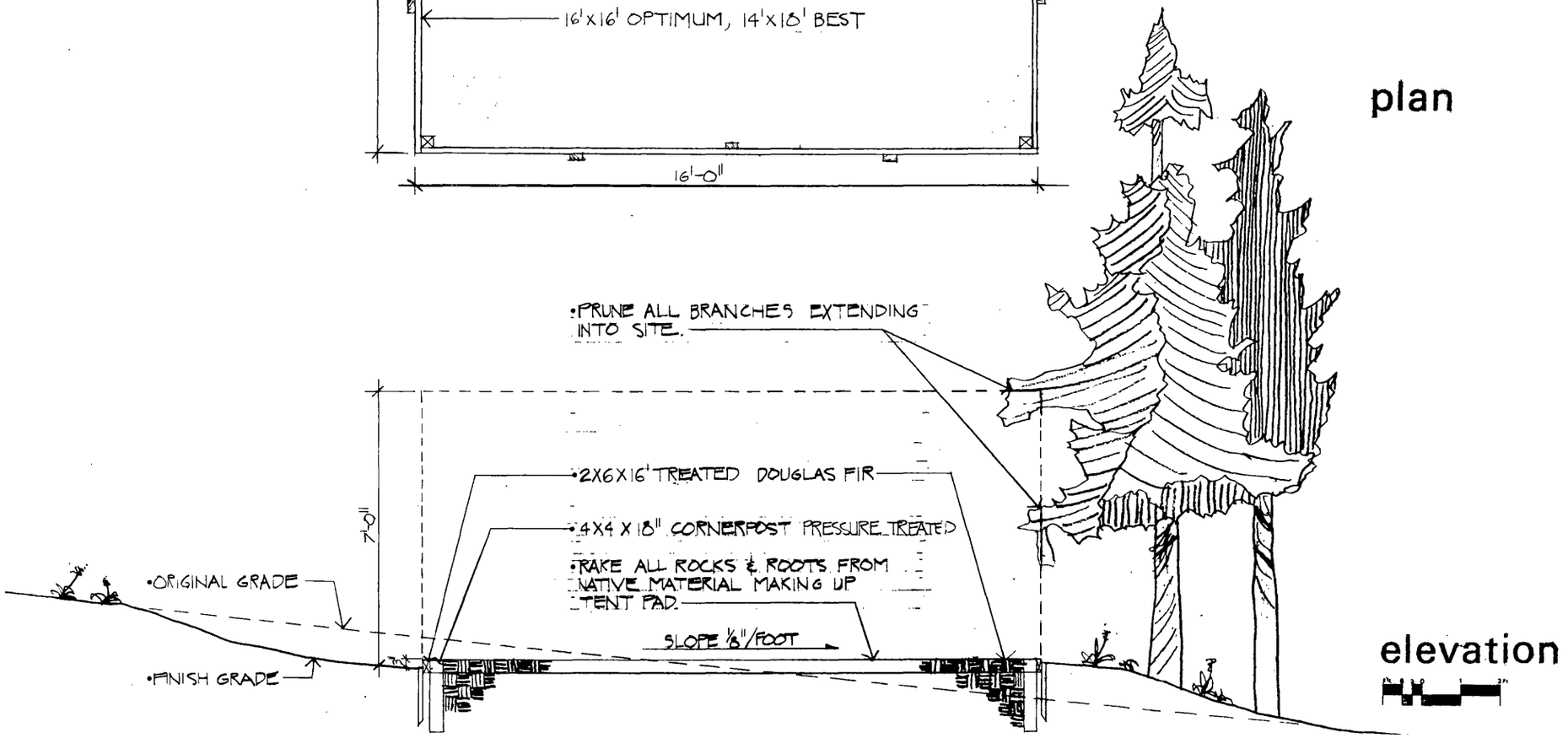

4X4X18" CORNER POST
2X6 MIN. TREATED DOUGLAS FIR RETAINER
2X4X18" STAKES PLACED 4'-0" O.C. PRESSURE TREATED.
2" PEA GRAVEL ON TOP OF COMPACTED NATIVE MATERIAL
CLEAR ROCKS LARGER THAN 2" D. AND ROOTS DOWN TO 1'-0 BELOW SURFACE.
16'x16' OPTIMUM, 14'x18' BEST
16'-0"
16'-0"

plan

notes

- TREAT 2X4 RETAINER POSTS & STAKES PENTACHLOROPHENOL.
- FASTEN STAKES & CORNERPOSTS TO EDGER WITH 10d. COMMON GALV. NAILS.



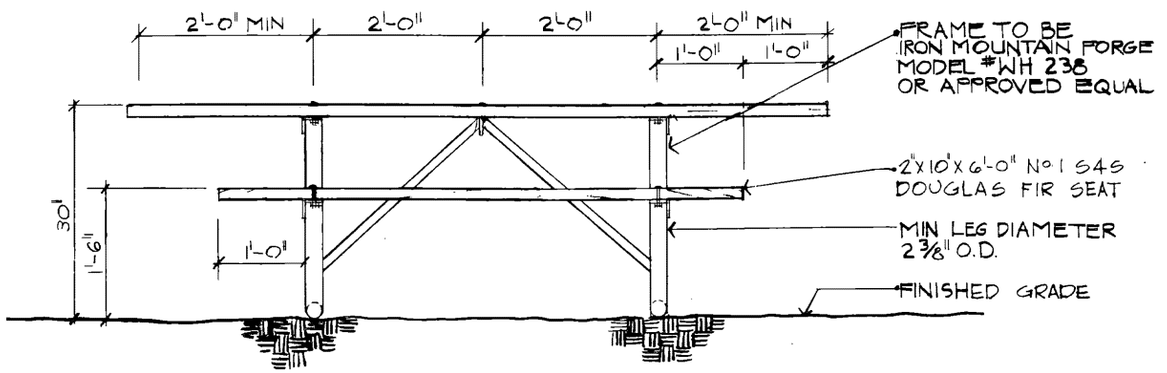

PRUNE ALL BRANCHES EXTENDING INTO SITE.
2X6X16' TREATED DOUGLAS FIR
4X4X18" CORNERPOST PRESSURE TREATED
RAKE ALL ROCKS & ROOTS FROM NATIVE MATERIAL MAKING UP TENT PAD.
SLOPE 1/8"/FOOT
7'-0"
ORIGINAL GRADE
FINISH GRADE

elevation

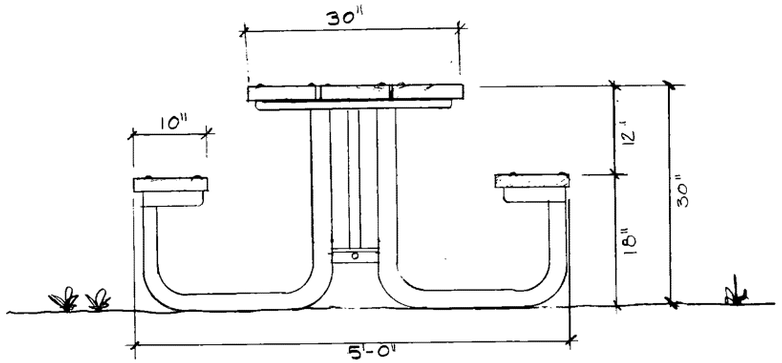
Forest Service · USDA

1 of 1

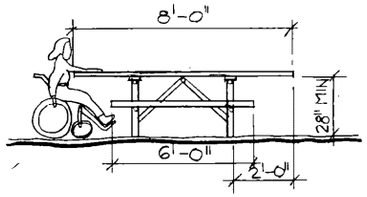
R-6
B-12001
■ Details Complete
□ Details Incomplete



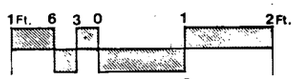
front elevation



side elevation



no scale



Picnic Table
Pipe Frame With Wood Planks

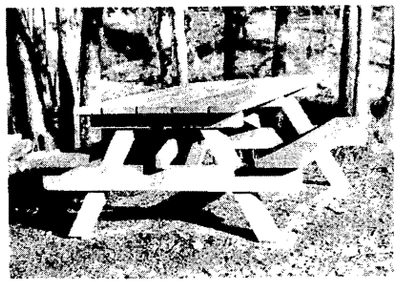
1 of 1

R-5
PI. B-2003

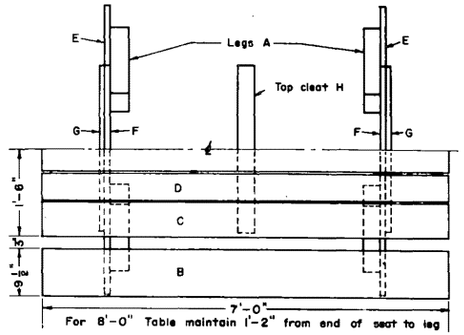
■ Details Complete
□ Details Incomplete

Forest Service · USDA

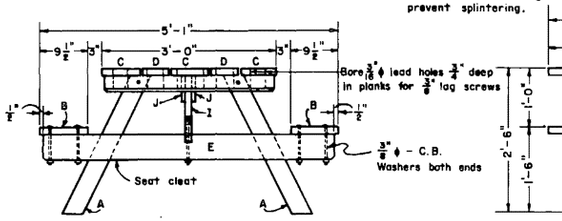
Picnic Table
Light Wood Plank



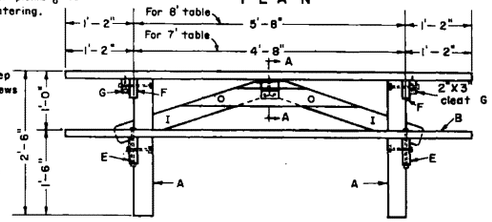
FACSIMILE



Note: Ease edges of planks $\frac{1}{8}$" to prevent splintering.



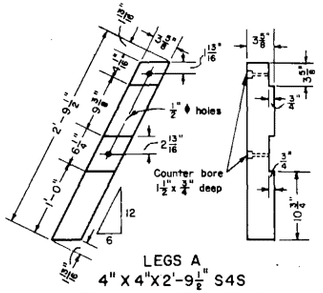
END VIEW

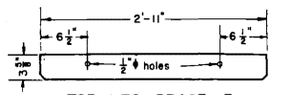


SIDE VIEW

0 3" 6" 9" 1' 2' 3' 4'
Scale

MATERIAL LIST					
7 FOOT TABLE	NO.	FINISH	NAME AND USE	MARK	8 FOOT TABLE
4"X4"X2'-9½"	4	S4S	Legs	A	4"X4"X2'-9½"
2"X10"X7'-0"	2	S4S	Seat planks	B	2"X10"X8'-0"
2"X8"X7'-0"	3	S4S	Top planks	C	2"X8"X8'-0"
2"X6"X7'-0"	2	S4S	Top planks	D	2"X6"X8'-0"
2"X6"X5'-0"	2	S4S	Seat cleats	E	2"X6"X5'-0"
2"X4"X2'-11"	2	S4S	Top leg brace	F	2"X4"X2'-11"
2"X3"X2'-11"	2	S4S	Top cleat	G	2"X3"X2'-11"
2"X4"X2'-11"	1	S4S	Top center cleat	H	2"X4"X2'-11"
2"X4"X2'-8⅞"	2	S4S	Brace	I	2"X4"X3'-2¾"
1"X4"X2'-11½"	2	S4S	Gusset plate	J	1"X4"X3'-3½"
⅜"X10"	2	Galv.	Carriage bolts brace		⅜"X10"
⅜"X8"	8	Galv.	Carriage bolts seats		⅜"X8"
½"X7"	4	Galv.	Carriage bolts top to legs		½"X7"
½"X5"	4	Galv.	Carriage bolts (SEAT CLEAT TO LEGS)		½"X5"
⅜"X4"	2	Galv.	Carriage bolts gusset plate		⅜"X4"
⅜"X3"	30	Galv.	Lag screws-cleats to top		⅜"X3"
Cut washers	42	Galv.	⅜" Dia. bolts		Cut washers
Cut washers	8	Galv.	½" Dia. bolts		Cut washers
Cut washers	12	Galv.	To fit sq. end ⅜" DIA. CARRIAGE BOLTS		Cut washers
Cut washers	8	Galv.	To fit sq. end ½" DIA. CARRIAGE BOLTS		Cut washers
Clips	2	Galv.	1½"X1½"X18ga.X3⅜"		Clips
Nails	8	Galv.	3 Penny		Nails





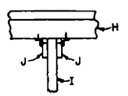
SPECIFICATIONS

Use most economical durable species available (See Wood Handbook, U.S.D.A. Handbook No. 72), preferably heartwood cuts. Lumber shall be equivalent to West Coast Lumberman's Association "Construction" grade for Douglas Fir. Lumber shall have a moisture content, prior to treatment, of not to exceed 20% in the outer half inch.

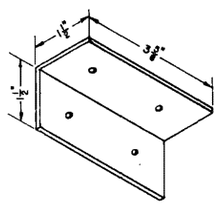
After all cutting and boring is completed, all table parts shall be given a preservative treatment by soaking for 48 hours in a water repellent preservative certified as conforming to composition A (pentachlorophenol) of Federal Specification TT-W-572, 'Wood Preservative, Water Repellent.' One brush coat of Forest Products Laboratory Natural Finish, colored to Regional Standards, shall be applied after assembly. The interval between treating and applying the finish shall be such that the surface shall be free from waxy, greasy, oily, or crystalline deposits removable by rubbing with the fingers, free from any glossy film resembling that of varnish, and free from any easily detectable odor of treating solvent. If the only surface contamination is in the form of a few dry crystals that can readily removed by brushing, finishing may be permitted if the surfaces are brushed clean.

Wood seat and top planks shall be installed with the heart side down.

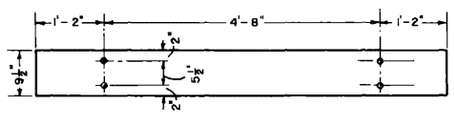
Before mass production of this unit is started, a pilot model should be cut and assembled to assure proper dimension and fit.



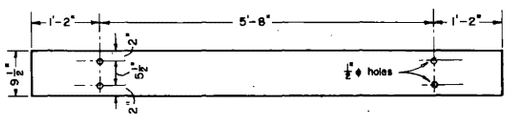
SECTION A-A



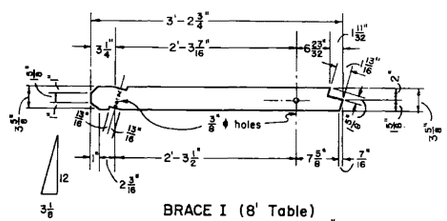
GALV. CLIP
(1½"X1½"X3⅜"X 18ga.)

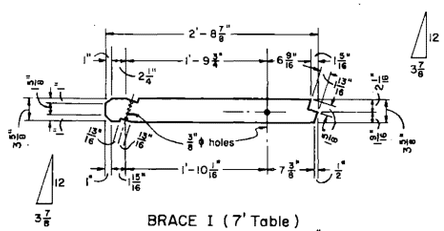


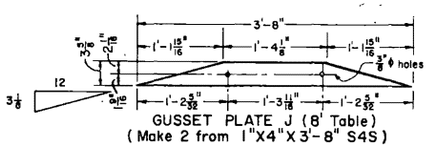
SEAT PLANK (7' Table)
(Make 2 from 2"X10"X 7'-0" S4S)

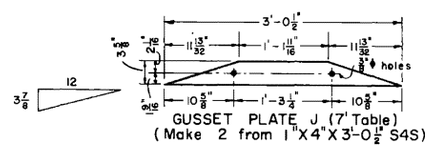


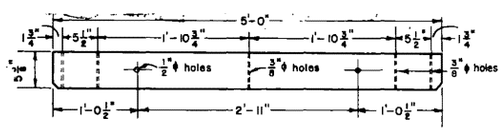
SEAT PLANK (8' Table)
(Make 2 from 2"X10"X 8'-0" S4S)

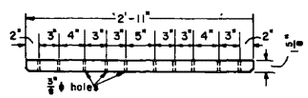




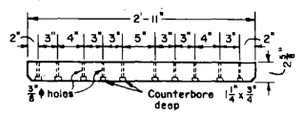








0 3" 6" 9" 1' 2' 3'
Scale



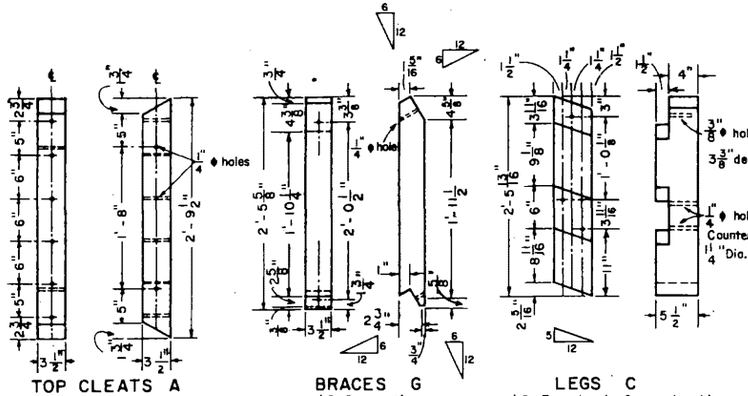
Forest Service · USDA

1 of 1

R-2
PI.11A

■ Details Complete
□ Details Incomplete

Picnic Table
Heavy Wood Plank

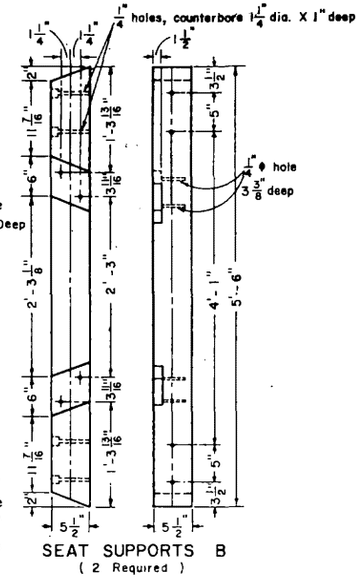


TOP CLEATS A
2 Required

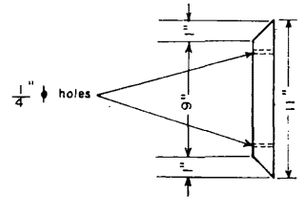
BRACES G
(2 Required)

LEGS C
(2 Required; 2 opp. hand)

Scale 0 3" 6" 9" 1' 2' 3'



SEAT SUPPORTS B
(2 Required)

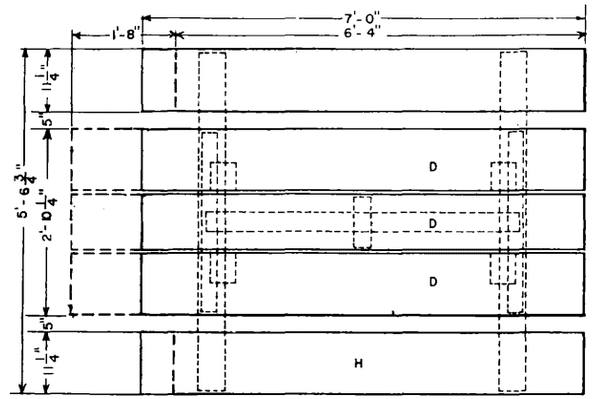


CLEAT E
(1 Required)

MATERIAL LIST				
NO.	SIZE	FINISH	NAME	MARK
5	4 x 12 x 7'-0"	S 4 S	Top & Seats	D & H
2	6 x 6 x 5'-6"	S 4 S	Seat supports	B
4	6 x 6 x 2'-5 13/16"	S 4 S	Legs	C
2	4 x 4 x 2'-5 3/4"	S 4 S	Braces	G
2	4 x 4 x 2'-9 1/4"	S 4 S	Top end cleats	A
1	2 x 4 x 11"	S 4 S	Top center cleat	E
22	1/2" x 7"	Galv	Lag screws & Cut whrs	
2	3/8" x 3"	Galv.	Lag screws & Cut whrs.	
14	3/8" x 5"	Galv.	" " " " "	

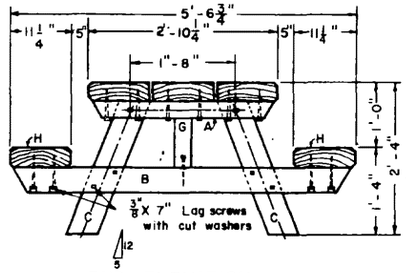
Wood seat and top plank shall be in stalled with the heart side down.

Note: Use most economical durable species available (See Wood Handbook, U.S.D.A. Handbook No. 72) preferably heartwood cuts. Lumber shall be equivalent to West Coast Lumberman's Association "Construction" grade for Douglas Fir. Lumber shall have a moisture content prior to treatment, of not to exceed 20% in the outer half inch.
After all cutting and boring is completed, all table parts shall be given a chromated - copper - arsenate Treatment

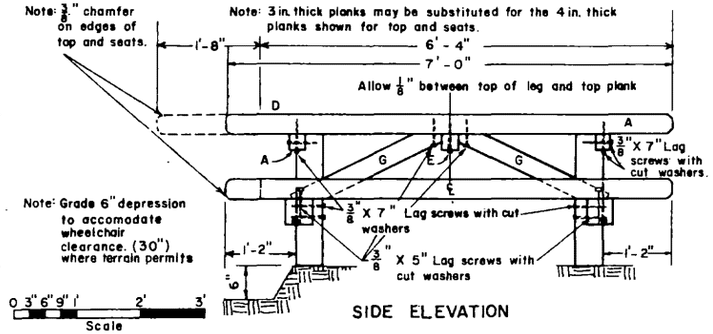


PLAN

Note: Dashed line shows modification for wheelchair use in plan and end elevation.
8'-0" long planks may be substituted as option for table top and seats.



END ELEVATION


Note: 3/8" chamfer on edges of top and seats.
Note: 3 in. thick planks may be substituted for the 4 in. thick planks shown for top and seats.
1'-8"
6'-4"
7'-0"
Allow 1/8" between top of leg and top plank
D
A
A
G
E
G
3/8" X 7" Lag screws with cut washers.
Note: Grade 6" depression to accomodate wheelchair clearance. (30") where terrain permits
3/8" X 7" Lag screws with cut washers
3/8" X 5" Lag screws with cut washers
1'-2"
1'-2"
6"
0 3" 6" 9" 1' 2' 3'
Scale

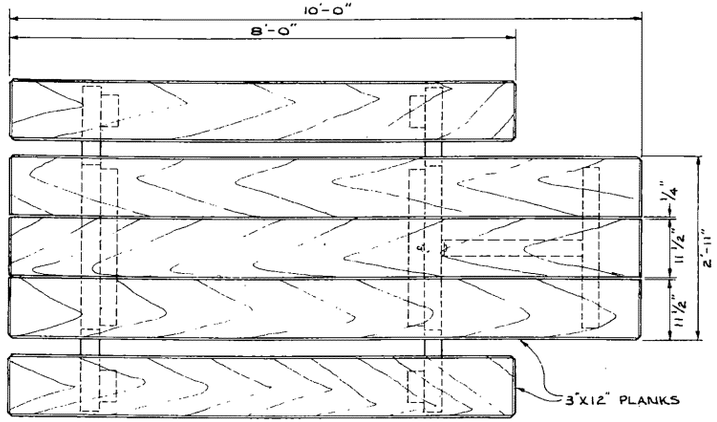
SIDE ELEVATION

Forest Service · USDA

1 of 1

R-8
PI.22u-7001

■ Details Complete
□ Details Incomplete



NOTE
FOR DIMENSIONS ON TABLE SUPPORTS REFER TO PLATE 11C-1-R2-A

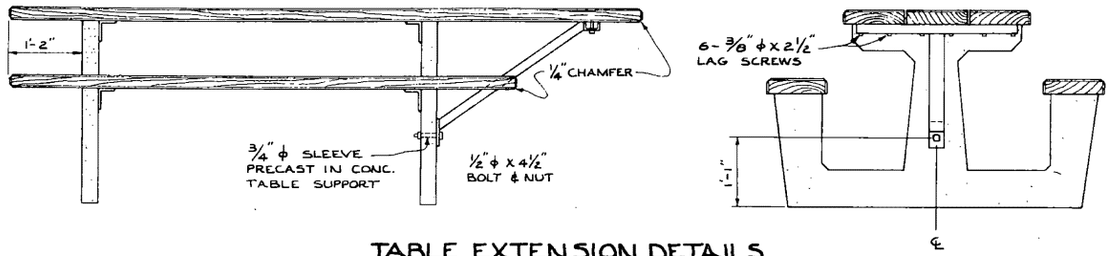
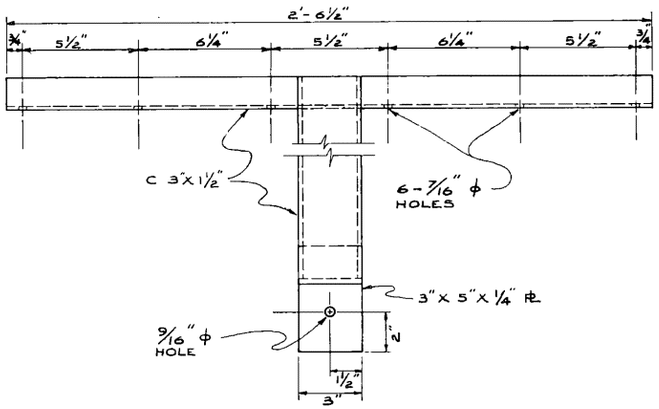
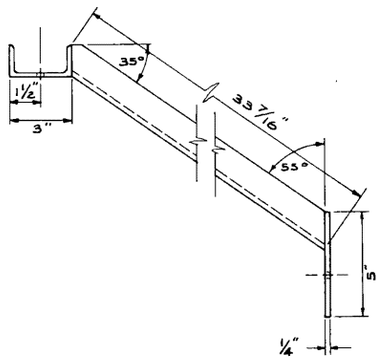


TABLE EXTENSION DETAILS

¾" = 1'-0"





BRACE DETAILS

3" = 1'-0"

NO.	SIZE	DESCRIPTION
1	¾"ϕx3½"	CONDUIT SLEEVE
3	3"X12"	10' LONG TABLE PLANKS
2	C 3"X1½"	STEEL CHANNELS
1	5"x3"x¼"	STEEL PLATE
6	⅜"ϕx2½"	LAG SCREWS
1	½"ϕx4½"	MACHINE BOLT W/NUT

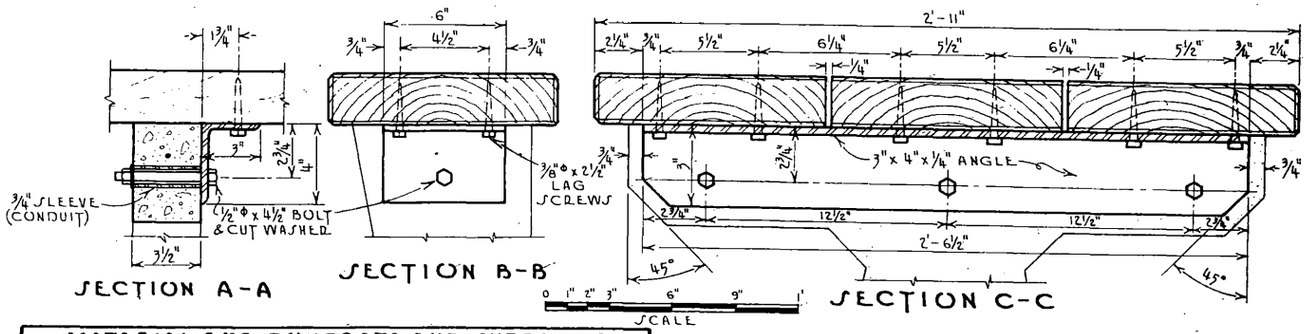
Picnic Table
W/ Food Preparation Area
Concrete W/ Wood Planks

1 of 1

R-2
PI.11c-1-R2-A1
■ Details Complete
□ Details Incomplete

Forest Service · USDA

Picnic Table
Concrete With Wood Planks

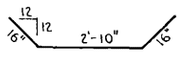


NOTE

TOPS AND SEATS TO BE GIVEN ONE BRUSH COAT OF CEDAR F.P.L. NATURAL WOOD FINISH, FEDERAL SPECIFICATION TT-S-708a.

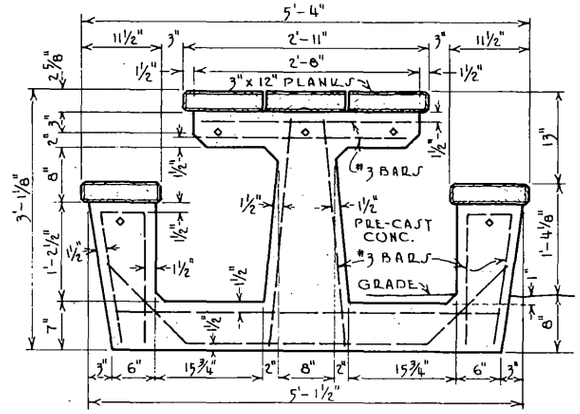
MATERIAL FOR CONCRETE END SUPPORTS			
NO.	SIZE	FINISH	ITEM
2	#3 2'-2"	DEFORMED	REINFORCING BARS, STRAIGHT
2	#3 2'-6"	DEFORMED	REINFORCING BARS, STRAIGHT
4	#3 2'-8"	DEFORMED	REINFORCING BARS, STRAIGHT
2	#3 4'-8"	DEFORMED	REINFORCING BARS, STRAIGHT
8	#3 1'-6"	DEFORMED	REINFORCING BARS, STRAIGHT
4	#3 8"	DEFORMED	REINFORCING BARS, STRAIGHT
2	#3 5'-6"	DEFORMED	REINFORCING BARS, BENT
10	3/4"Φ 3 1/2"		SLEEVE, CONDUIT *
2.5	LB. 18 GA.	ANNEALED	FORM WIRE **
4.5	CU. FT.		CONCRETE, TWO END SUPPORTS

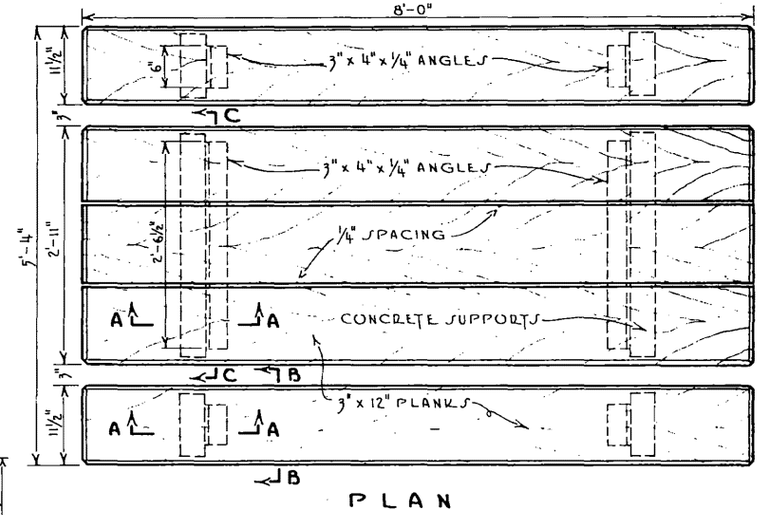
MATERIAL FOR WOOD TOP & SEATS			
NO.	SIZE	FINISH	ITEM
5	3"x12", 8'-0"	S4S	PLANKS, SEATS AND TOP
4	3"x4"x1/4", 6"		STEEL ANGLES
2	3"x4"x1/4", 2'-6 1/2"		STEEL ANGLES
20	3/8"Φ x 2 1/2"	ZINC CHROMATE	LAG SCREWS
10	1/2" x 4 1/2"		MACH. BOLTS W/ HEX. NUTS & CUT WASHERS

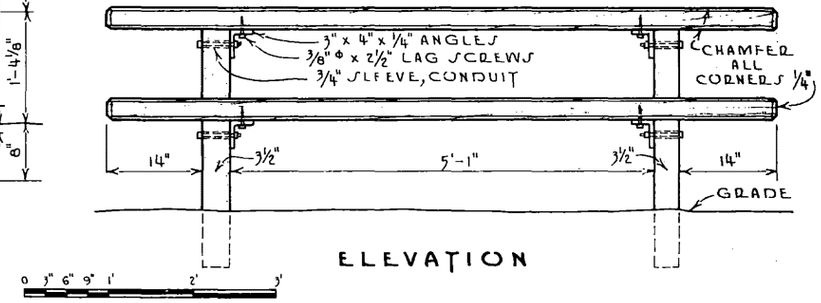


* 3/4"Φ CONDUIT, FEDERAL SPEC. W.W.T. 806B.
** REINFORCING BAR INTERSECTIONS MAY BE WELDED.

FOR USE IN 3, 4 AND 5 TYPE SITES



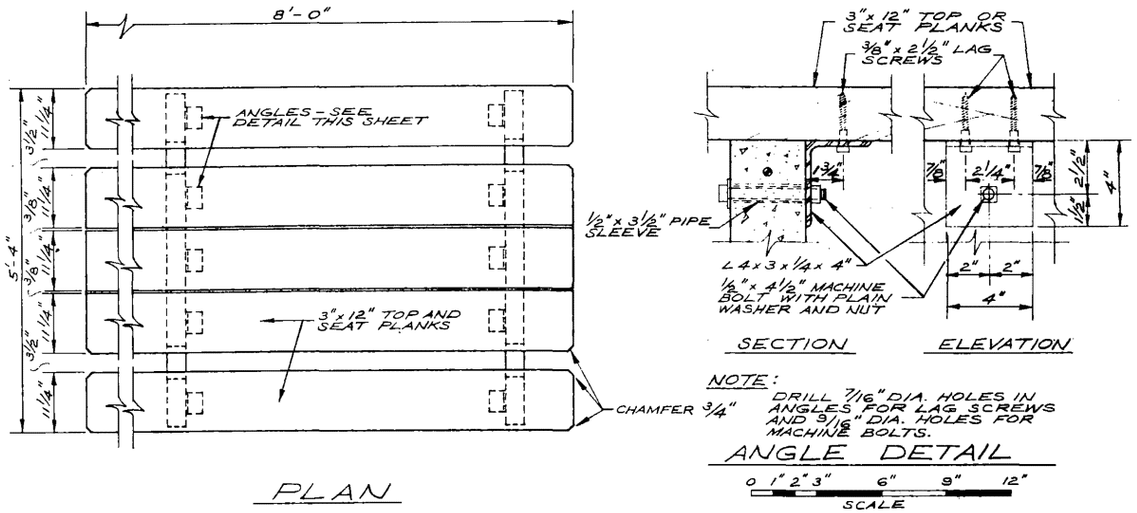




1 of 1

R-2
PI.11c-1-R2-A
■ Details Complete
□ Details Incomplete

Forest Service · USDA



PLAN

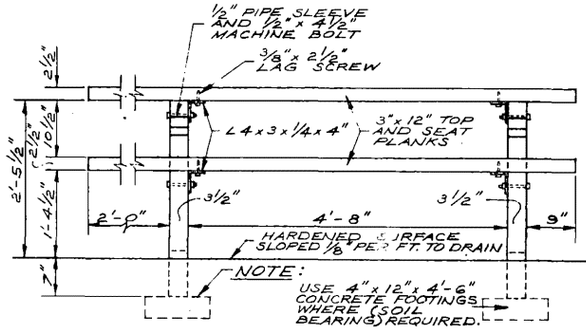
SECTION ELEVATION

NOTE: DRILL 7/16" DIA. HOLES IN ANGLES FOR LAG SCREWS AND 9/16" DIA. HOLES FOR MACHINE BOLTS.

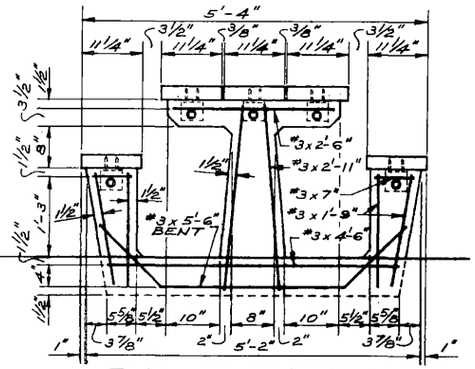
ANGLE DETAIL

0 1" 2" 3" 6" 9" 12"

SCALE



SIDE ELEVATION



END ELEVATION

0 3" 6" 9" 1' 2' 3' 4'

SCALE

SPECIFICATIONS

Concrete - Cement Type IA or IIIA. Maximum size of coarse aggregate 1/2". Concrete shall attain a minimum compressive strength of 3,000 PSI in 28 days.
Add pigment to concrete mix to provide gray or brown color tone to match color of surrounding landscape.

Reinforcing Steel - A.S.T.M. A 615.

Structural Steel - A.S.T.M. A 36.

Galvanizing - A.S.T.M. A 123.

Tie all reinforcing steel securely with 18 gage tie wire.

Lumber shall be No. 1 (S4S) F_b = 1,450 PSI Douglas Fir or Southern Yellow Pine graded in accordance with Grading Rules of West Coast Lumber Inspection Bureau or Southern Pine Inspection Bureau. Maximum moisture content 19%. After all cutting and boring is completed, all wooden table parts shall be given a preservative treatment by soaking for 48 hours in a water-repellent preservative certified as conforming to Composition – A-Pentachlorophenol of Federal Specification TT-W-572B, Wood Preservative: Water-Repellent. After assembly, apply one brush coat of Forest Products Laboratory Natural Finish tinted to produce desired color. The interval between treating and applying the finish shall be such that the surface is free from waxy, greasy, oily, or crystalline deposits removable by rubbing with the fingers, free from any glossy film resembling that of varnish, and free from any easily detectable odor of treating solvent. If the only surface contamination is in the form of a few dry crystals that can readily be removed by brushing, finishing may be permitted if the surfaces are brushed clean.

Wooden seat and top planks shall be installed with the heart side down.

Before mass production of this unit is started, a pilot model should be cast and assembled to assure proper dimension and fit.

Picnic Table
Concrete With Wood Planks

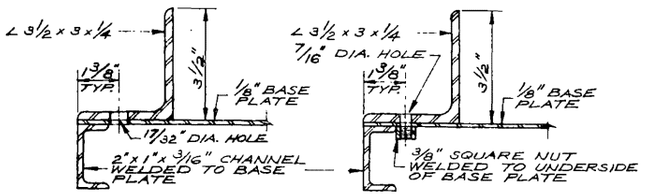
1 of 2

R-9
U-206

■ Details Complete
□ Details Incomplete

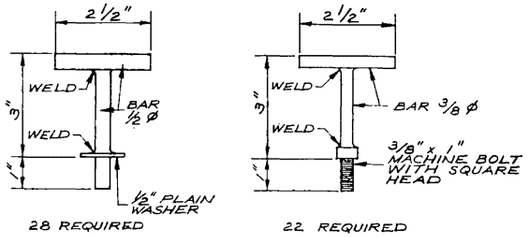
Forest Service · USDA

FOREST SERVICE · DEPARTMENT OF AGRICULTURE

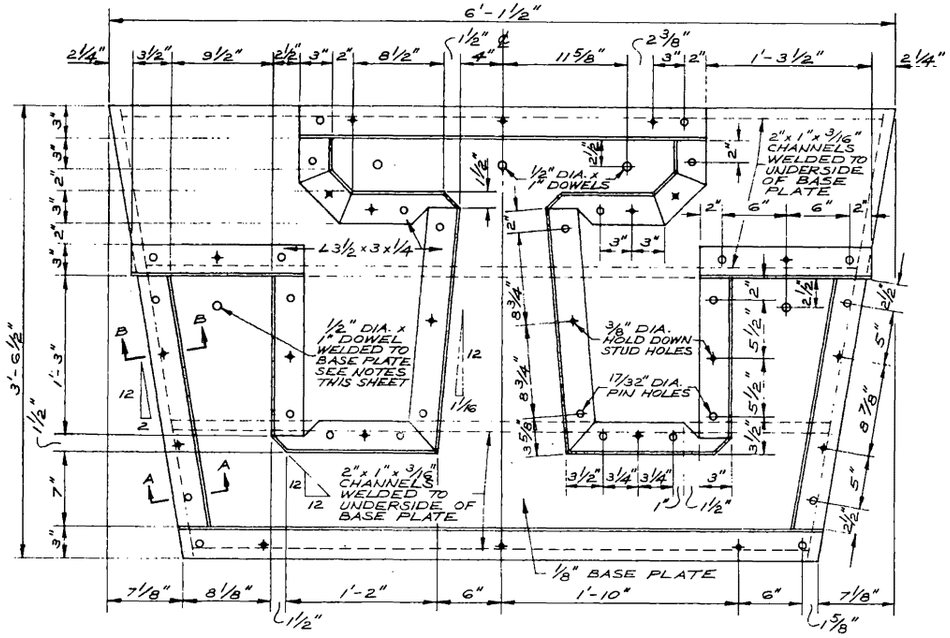

∠ 3½ x 3 x ¼
3/8" TYP.
3½"
⅛" BASE PLATE
17/32" DIA. HOLE
2" x 1" x 3/16" CHANNEL WELDED TO BASE PLATE
∠ 3½ x 3 x ¼
7/16" DIA. HOLE
3/8" TYP.
3½"
⅛" BASE PLATE
3/8" SQUARE NUT WELDED TO UNDERSIDE OF BASE PLATE

SECTION A-A SECTION B-B

0 ½" 1" 2" 3" 4"
SCALE



PIN HOLD DOWN STUD



PLAN OF STEEL FORM FOR CONCRETE END SUPPORTS

0 3" 6" 9" 1' 2'
SCALE

NOTES

1. DRILL ALL HOLES IN FORM ANGLES ON GAGE AS SHOWN ON SECTIONS A-A AND B-B THIS SHEET.
2. USE ½" DIA x 1" DOWELS TO HOLD ½" x 3½" PIPE SLEEVES.
3. CHAMFER ALL CONCRETE EDGES.
4. CONCRETE SHALL HAVE A BRUSHED SURFACE FINISH.

BILL OF MATERIALS

NO. REQD.	SIZE	FINISH	ITEM DESCRIPTION
10	½" x 3½"	GALVANIZED	PIPE SLEEVES
4	#3 x 0'-7"	DEFORMED	STEEL REINFORCING BARS, STRAIGHT
8	#3 x 1'-9"	"	" " " "
2	#3 x 2'-6"	"	" " " "
4	#3 x 2'-11"	"	" " " "
2	#3 x 4'-6"	"	" " " "
2	#3 x 5'-6"	"	" " " BENT 1'-2" 1'-10" 1'-8"
25 FT.	18 GAGE	ANNEALED	FORM TIE WIRE
2	3" x 12" x 8'-0"	S4S	SEAT PLANKS
3	3" x 12" x 8'-0"	S4S	TOP PLANKS
10	L4 x 3 x ¼ x 4"	GALVANIZED	STEEL ANGLES
20	3/8" x 2½"	"	LAG SCREWS, GIMLET POINT
10	½" x 4½"	"	MACHINE BOLTS WITH SQ. NUTS AND PLAIN WASHERS

CONCRETE = 5.7 CUBIC FEET TOTAL FOR TWO END SUPPORTS.

Picnic Table
Concrete With Wood Planks

2 of 2

R-9
U-206
■ Details Complete
□ Details Incomplete

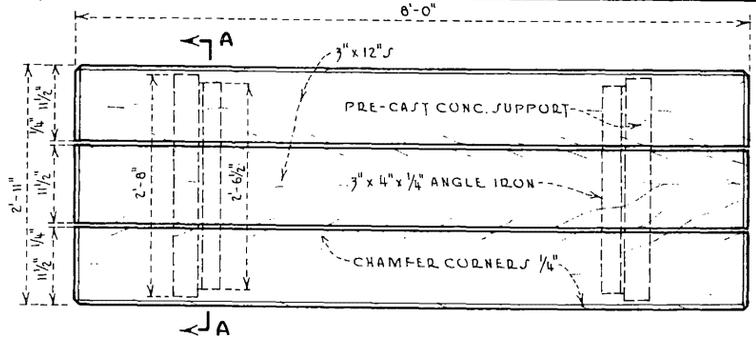
Forest Service · USDA

FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE

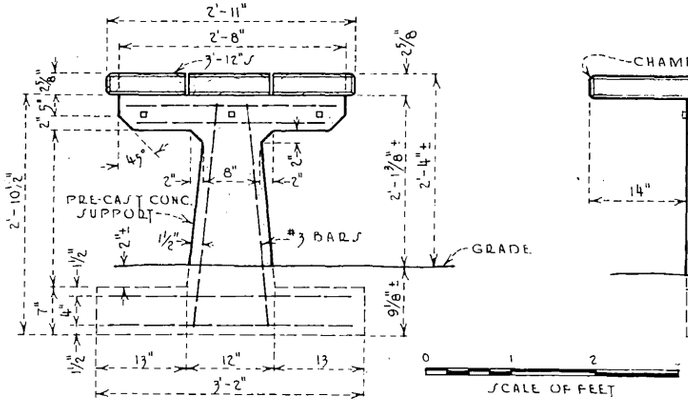
Serving Table
Concrete With Wood Planks

NOTE

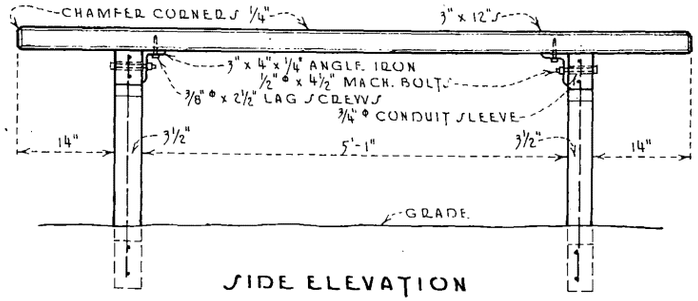
TOP OF TABLE TO BE GIVEN ONE BRUSH COAT OF CEDAR. CEDAR F. P. L. NATURAL WOOD FINISH, FEDERAL SPECIFICATION TT-S-708a.



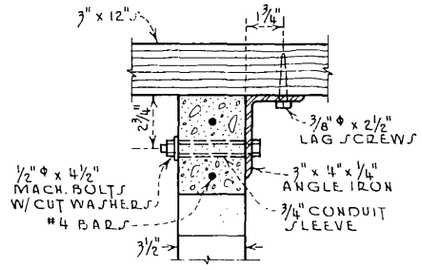
PLAN



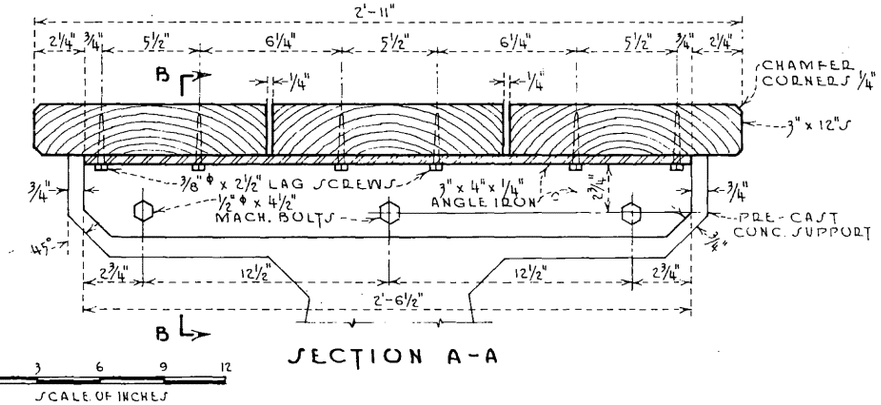
END ELEVATION



SIDE ELEVATION



SECTION B-B



SECTION A-A

BILL OF MATERIAL

NO.	SIZE	FINISH	ITEM	NO.	SIZE	FINISH	ITEM
3	3"x12"x8'-0"	S4S	PLANKS	4	#3, 2'-8"	DEFORMED	REINF. BARS, STRAIGHT
2	3"x4"x1/4x2'-6½"		ANGLE IRONS	4	#3, 3'-0"	DEFORMED	REINF. BARS, STRAIGHT
6	½"Φ x 4½"	ZINC CHROMATE	MACH. BOLTS/W NUTS & CUT WASHERS	4	CU. FT.		CONCRETE
12	⅜"Φ x 2½"	ZINC CHROMATE	LAG SCREWS	2 LB.	18 GAUGE	ANNEALED	FORM WIRE
6	¾"Φ x 3½"		CONDUIT SLEEVES *				
2	#3, 2'-2"	DEFORMED	REINF. BARS, STRAIGHT				
2	#3, 2'-6"	DEFORMED	REINF. BARS, STRAIGHT				
			* FED. SPEC. W.W.T. 806B				

NOTE: USE IN GROUP CAMP AND PICNIC AREAS ONLY.

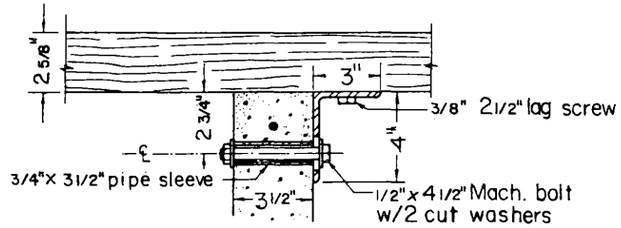
NOTE: FOR USE IN 3, 4 AND 5 TYPE SITES.

1 of 1

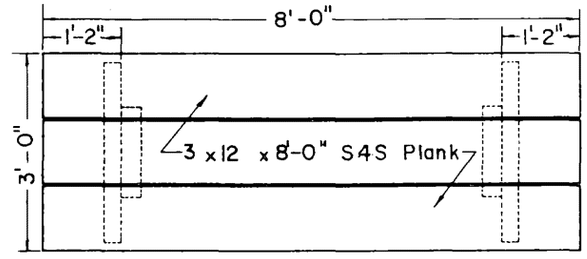
R-2
PI.11C-R2-E
■ Details Complete
□ Details Incomplete

Forest Service · USDA

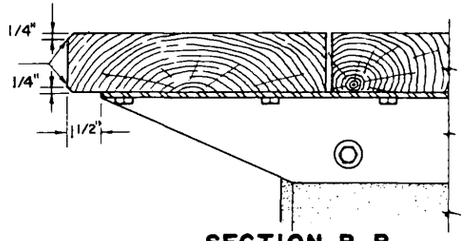
FOREST SERVICE U S DEPARTMENT OF AGRICULTURE



SECTION A-A



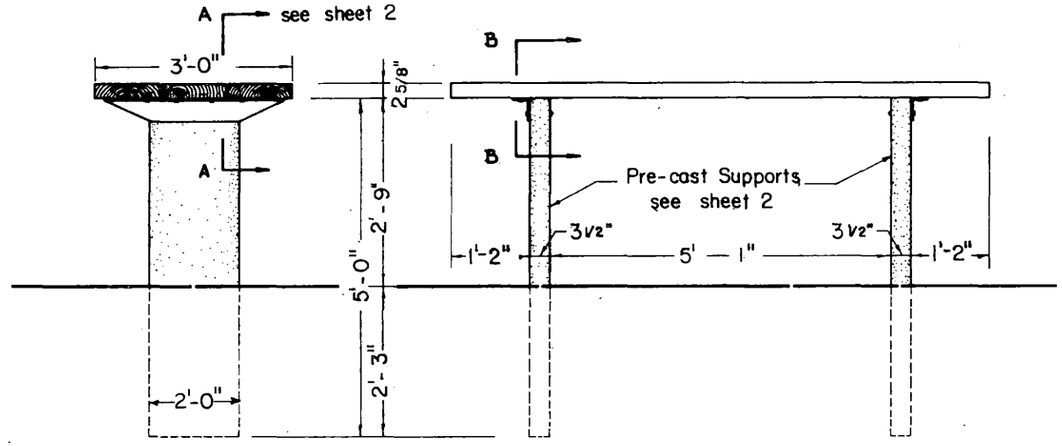
PLAN



SECTION B-B

0 6" 1' 2' 3'

SCALE IN FEET



END VIEW **SIDE VIEW**

Note: ALL WOOD TO BE TREATED WITH CHROMATED-COPPER-ARSENATE

Serving Table Concrete With Wood Planks

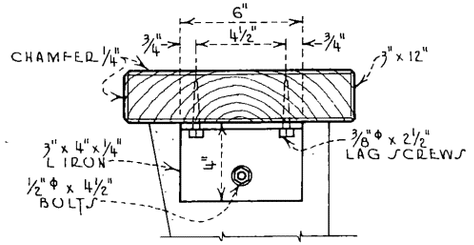
1 of 1

R-8
PI.22u-6901
■ Details Complete
□ Details Incomplete

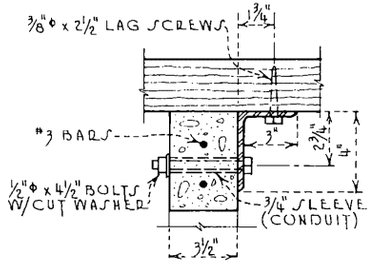
Forest Service · USDA

12 ft. Group Picnic Table Concrete With Wood Planks

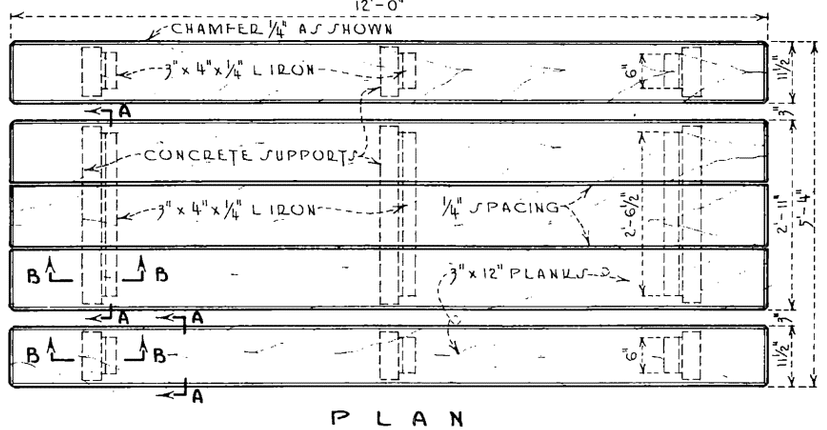
NOTE: INTENDED PRIMARILY FOR GROUP USE. WILL NOT BE USED IN CONJUNCTION WITH SINGLE FAMILY CAMP OR PICNIC UNITS. MAY BE USED, WHERE APPROPRIATE, AT CAMP OR PICNIC UNITS DESIGNED AND DEVELOPED FOR MORE THAN ONE FAMILY OR SMALL GROUP OCCUPANCY.



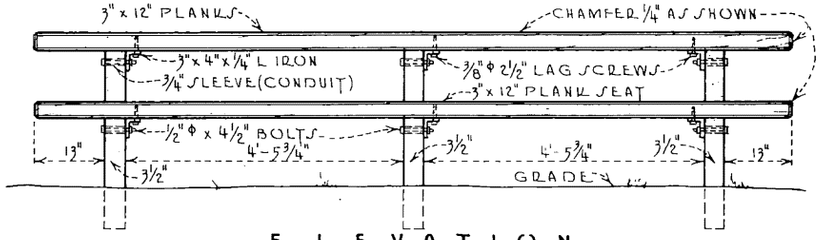
SECTION A-A



SECTION B-B



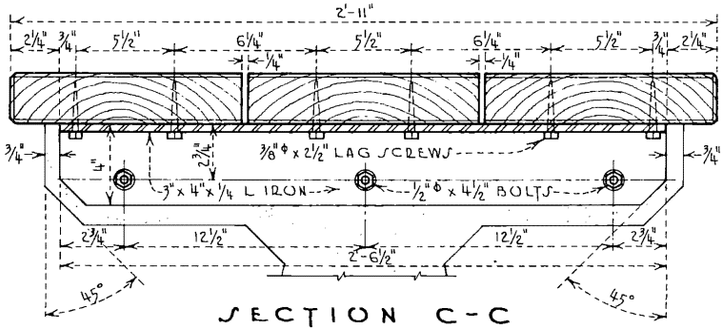
PLAN



ELEVATION

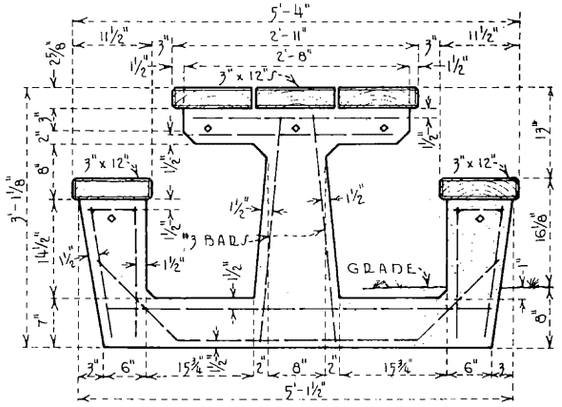
SCALE OF FEET

NOTE: TOP AND SEATS TO BE GIVEN ONE BRUSH COAT OF CEDAR F.P.L. NATURAL WOOD FINISH, FEDERAL SPECIFICATION TT-S-708a.



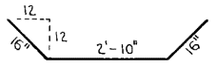
SECTION C-C

SCALE OF INCHES



END ELEVATION

SCALE OF FEET



MATERIAL FOR CONCRETE SUPPORTS			
NO.	SIZE	FINISH	ITEM
3	#3, 2'-2"	DEFORMED	REINFORCING BARS, STRAIGHT
3	#3, 2'-6"	DEFORMED	REINFORCING BARS, STRAIGHT
6	#3, 2'-8"	DEFORMED	REINFORCING BARS, STRAIGHT
3	#3, 4'-8"	DEFORMED	REINFORCING BARS, STRAIGHT
12	#3, 1'-6"	DEFORMED	REINFORCING BARS, STRAIGHT
6	#3, 8"	DEFORMED	REINFORCING BARS, STRAIGHT
3	#3, 5'-6"	DEFORMED	REINFORCING BARS, BENT
15	¾"Φ, 3½"		SLEEVE, CONDUIT *
3.75	LBS. 16GA.	ANNEALED	FORM WIRE **
6.75	CU.FT.		CONCRETE, 3 SUPPORTS

* ¾"Φ CONDUIT, FEDERAL SPEC. W.W.T. 806B.
** REINF. BAR INTERSECTIONS MAY BE WELDED.

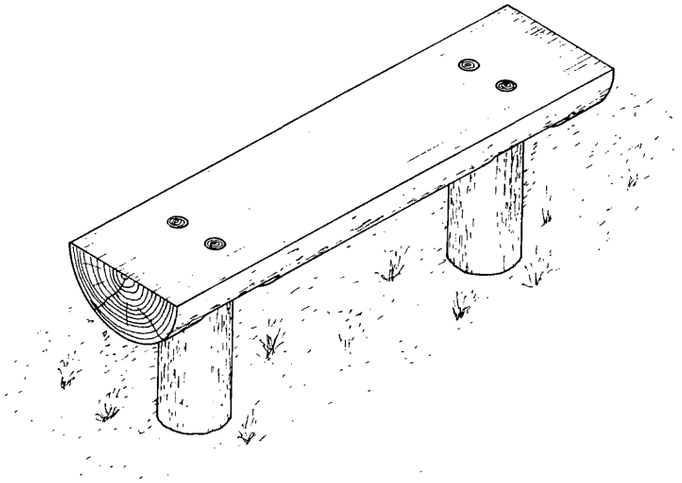
MATERIAL FOR WOOD TOP & SEATS			
NO.	SIZE	FINISH	ITEM
5	3" x 12", 12'-0"	S4S	PLANKS, SEATS AND TOP
6	3" x 4" x ¼", 6"		STEEL ANGLES
3	3" x 4" x ¼", 2'-6½"		STEEL ANGLES
24	⅜"Φ x 2½"		LAG SCREWS
15	½"Φ x 4½"		MACH. BOLTS W/ HEX. NUTS & CUT WASHER

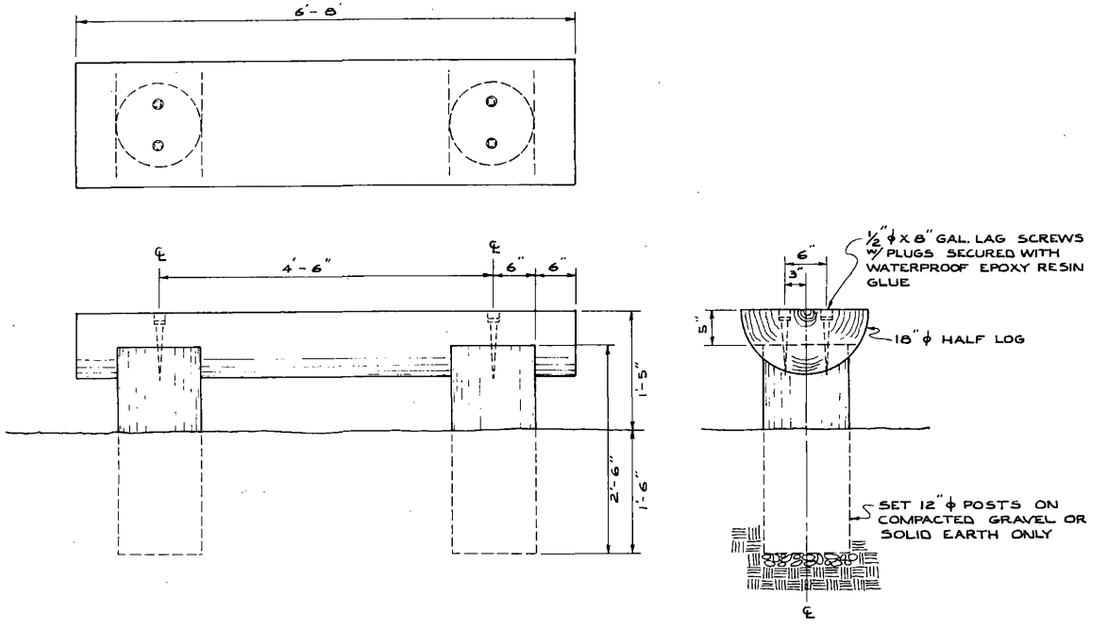
Forest Service • USDA

1 of 1

R-2
PI.11c-R2 B
■ Details Complete
□ Details Incomplete

Bench
Half – Log Type





BENCH DETAILS

1"=1'-0"

NOTES

1. APPROVED FOR USE AT EXPERIENCE LEVEL 2 SITUATIONS AT SPECIAL ACCESS POINTS ON TRAILS, AT OBSERVATION SITES AND AT SIGNIFICANT ATTRACTIONS AT OTHER DEVELOPMENT SITES.
2. USE ONLY PENTACHLOROPHENAL PRESSURE-TREATED SEAT SUPPORT.
3. USE LOCALLY AVAILABLE SPECIES FOR SEAT.
4. USE ONE COAT OF CLEAR FPL ON SEAT.

MATERIAL LIST

NO.	SIZE	DESCRIPTION
1	18"ϕX6'	HALF LOG BENCH SEAT
2	12"ϕX2'-6"	BENCH SUPPORT
4	½"ϕX 8"	GALVINIZED LAG SCREWS
4	2"ϕX2"	WOOD DOWEL PLUGS

1 of 1

R-2

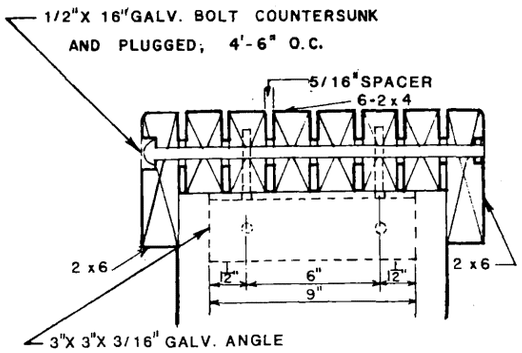
Pl.11c-R2-D2

■ Details Complete

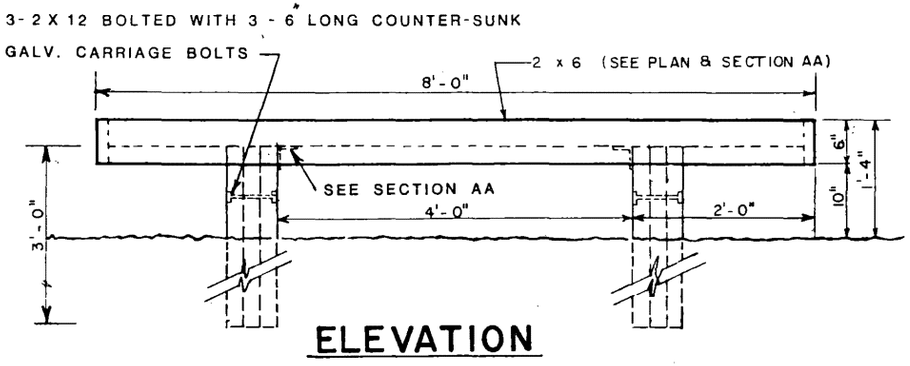
□ Details Incomplete

Forest Service · USDA

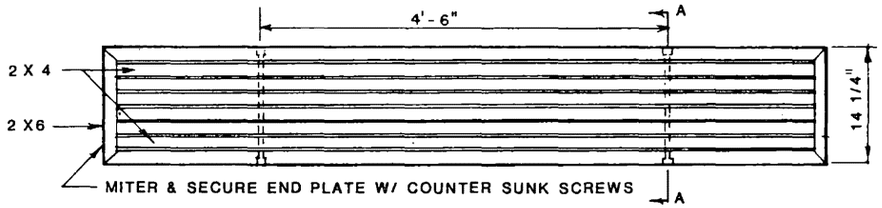
FOREST SERVICE · USDA · DEPARTMENT OF AGRICULTURE



SECTION AA



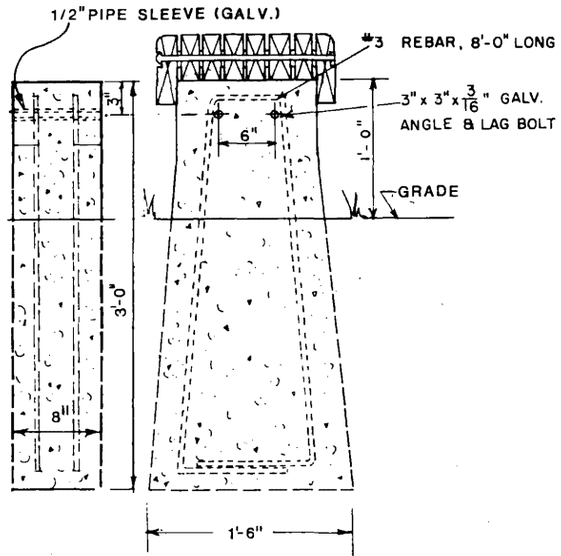
ELEVATION



ALL WOOD TO BE PRESSURE TREATED

PLAN

NO SCALE



ALTERNATE CONCRETE SUPPORTS

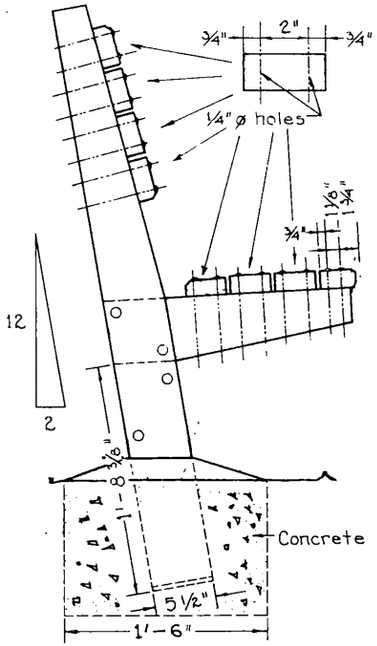
Bench
Flat-Concrete And Wood

1 of 1

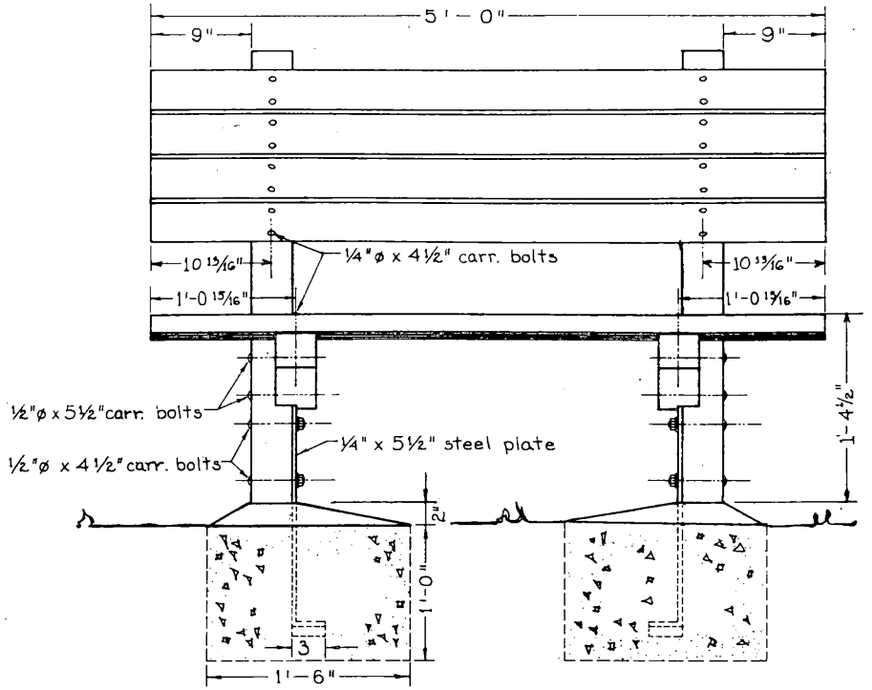
R-8
PI.22b-7901
■ Details Complete
□ Details Incomplete

Forest Service · USDA

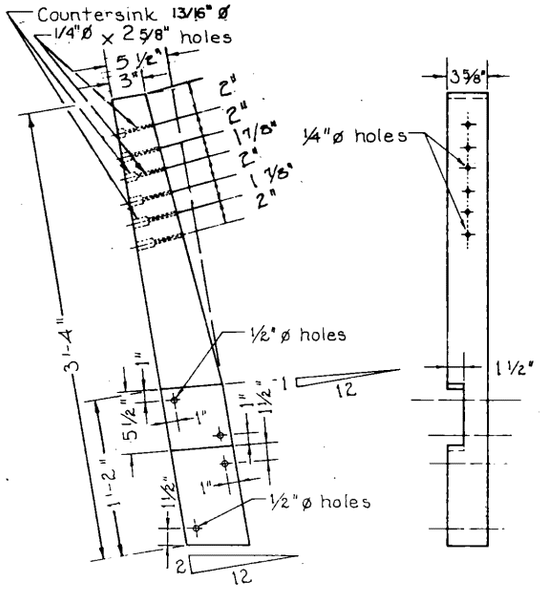
Wood Bench
With Tilted Backrest



END VIEW

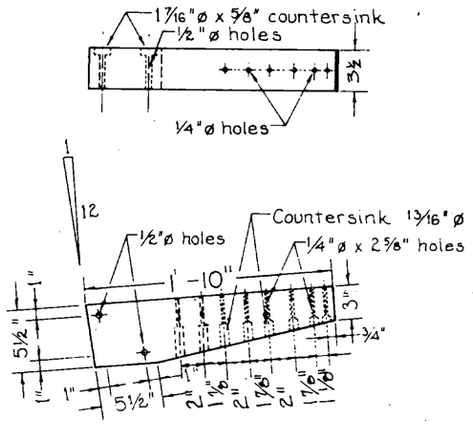


FRONT VIEW



BACK SUPPORT

Note:
All exposed surfaces of bolts and metal plates to be painted flat black.
All carriage bolts will have cut washer and nut.
All pine to be pressure treated using waterborne treatment methods.

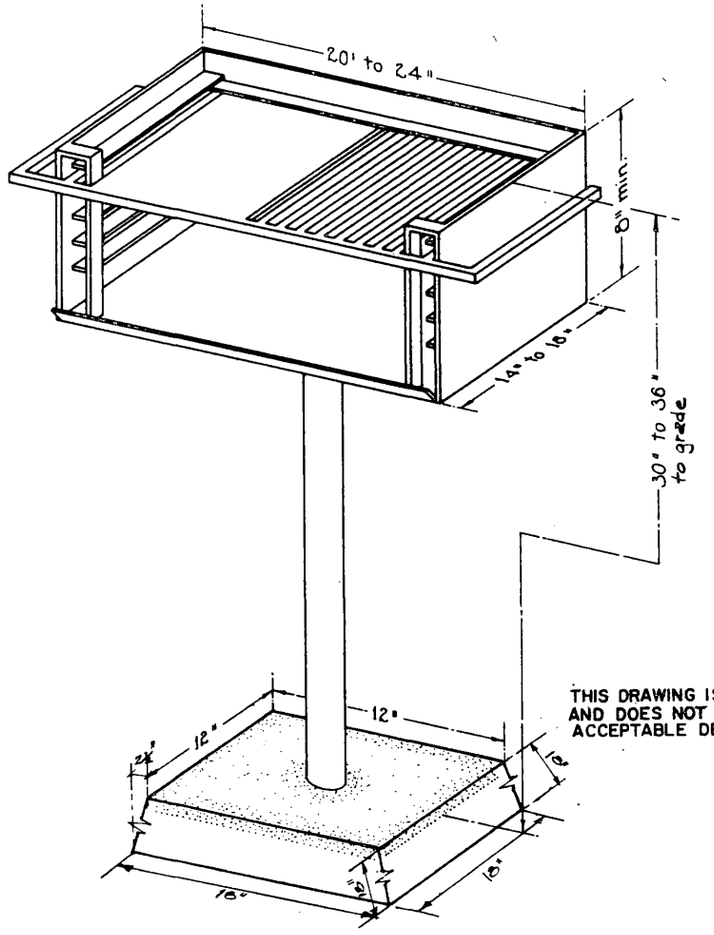


SEAT SUPPORT

Forest Service · USDA

1 of 1

R-8
PI.22b-6701
■ Details Complete
□ Details Incomplete



THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES AND DOES NOT IMPLY THIS IS THE ONLY ACCEPTABLE DESIGN.

SPECIFICATIONS:

PICNIC GRILL SHALL APPROXIMATE THE DIMENSIONS SHOWN ON THE DRAWING AND SHALL CONFORM TO THE FOLLOWING SPECIFICATION:

GRILL AND HOT PLATE TO BE A MINIMUM OF 280 SQ. IN., WITH MINIMUM 1/2" DIA. BARS FORMING THE GRILL (WELDED 1/2 APART). HOT PLATE SHALL NOT EXCEED 1/2 THE TOTAL COOKING SURFACE. GRILL AND HOT PLATE TO BE ADJUSTABLE TO A MINIMUM OF FOUR HEIGHTS, TO ADJUST COOKING HEAT, WITH "STAY-COOL" HANDLES TO BE AN INTERGRAL PART OF THE COOKING SURFACE, ALLOWING THE ADJUSTMENT OF GRILL BUT NOT THE REMOVAL OF THE GRILL. AN ASH RETENTION LIP MUST BE PROVIDED TO CONFINE ASHES WITHIN FIREBOX. DRAINAGE MUST BE PROVIDED TO TO PREVENT WATER FROM ACCUMULATING WITHIN THE UNIT. GRILL TO SWIVEL 360° ON MINIMUM 1 1/2" I.D. STEEL PIPE BASE WITH SELF-CONTAINED LOCKING DEVICE TO PREVENT REMOVAL OF GRILL FROM BASE. PIPE BASE TO BE LONG ENOUGH TO PERMIT 18" TO BE EMBEDDED IN CONCRETE BASE. FINISH TO BE A MINIMUM 1000 DEGREE HEAT-RESISTANT FLAT BLACK PAINT WITH APPLICATION OF TWO COATS.

INSTALLATION:

PICNIC GRILL SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

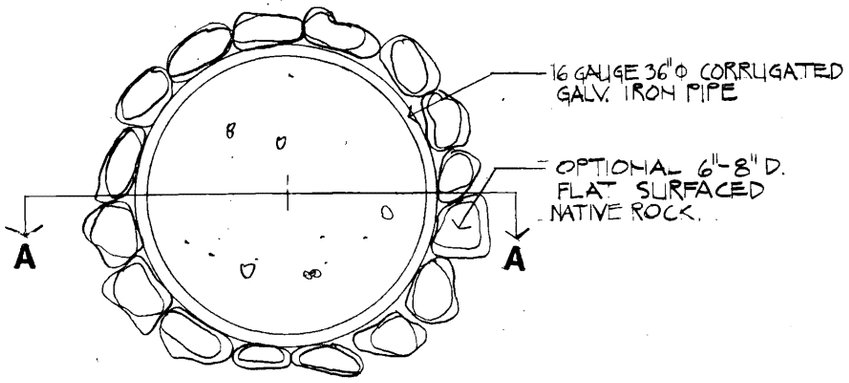
Pedestal Type Picnic Grill

1 of 1

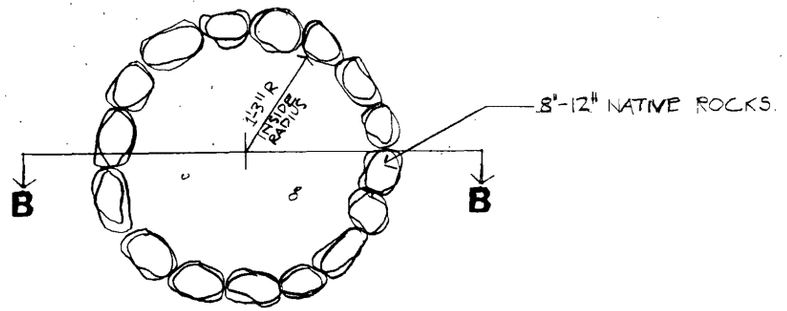
R-8
PI.22c-6801
■ Details Complete
□ Details Incomplete

Forest Service · USDA

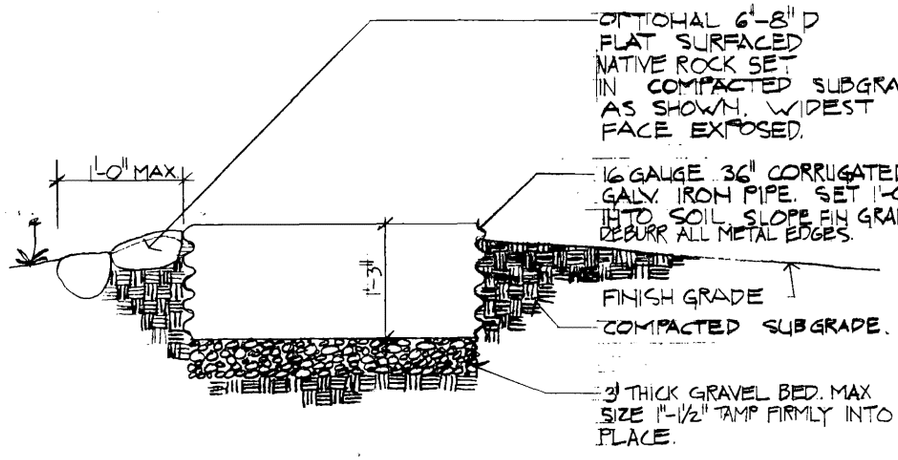
FOREST SERVICE · U.S. DEPARTMENT OF AGRICULTURE



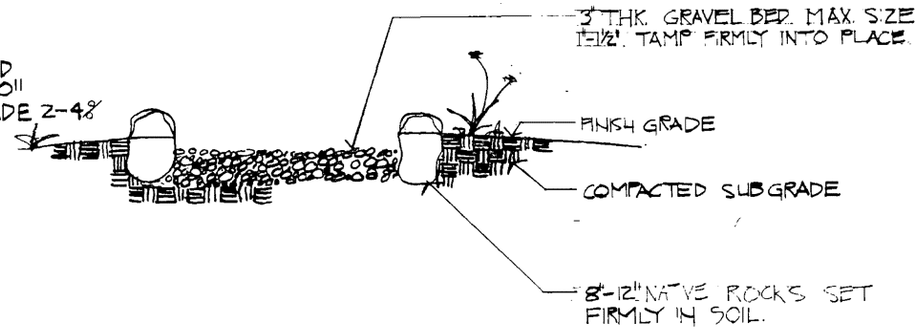
plan



plan


OPTIONAL 6"-8" D FLAT SURFACED NATIVE ROCK SET IN COMPACTED SUBGRADE AS SHOWN. WIDEST FACE EXPOSED.
1'-0" MAX.
16 GAUGE 36" CORRUGATED GALV. IRON PIPE. SET 1'-0" INTO SOIL. SLOPE FIN GRADE 2-4%
DEBURR ALL METAL EDGES.
1'-3"
FINISH GRADE
COMPACTED SUBGRADE.
3" THICK GRAVEL BED. MAX. SIZE 1"-1½" TAMP FIRMLY INTO PLACE.

section A-A



section B-B

Fire Rings Native Rock & Corrugated Iron Pipe

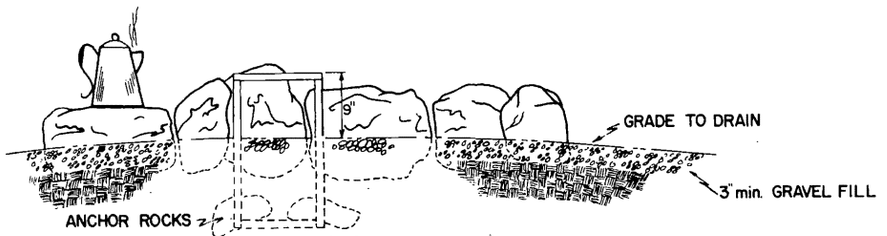
1 of 1

R-6
B-3302
■ Details Complete
□ Details Incomplete

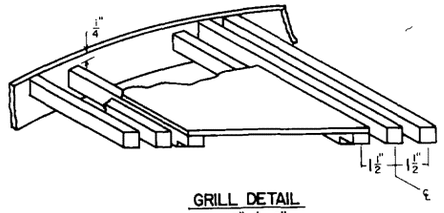
Forest Service · USDA

FOREST SERVICE
DEPARTMENT OF AGRICULTURE

Steel Grate Fire Ring
Primitive Rock

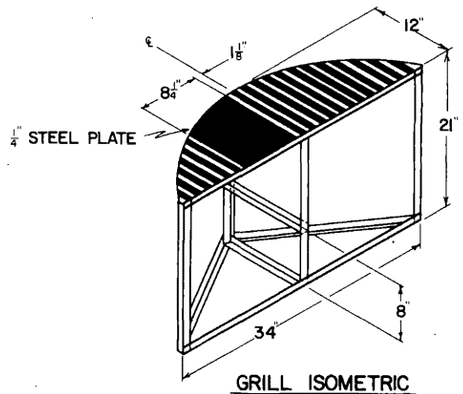


SECTION A-A
Scale: 1"=1'-0"

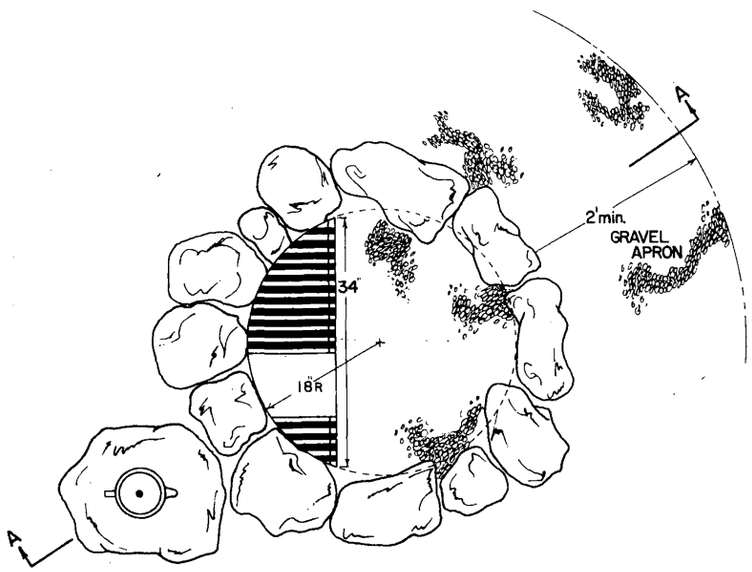


GRILL DETAIL
Scale: 3"=1'-0"

GRILL NOTES:
- GRILL BARS ¾" X ¾" SQUARE STOCK
- STEEL GRILL PLATE ¼" THICK
- RADIUS EDGE ¼" X 2" STRAP STEEL
- ALL OTHER FRAMEWORK 1" X 1" X ¼" ANGLE IRON.
- ALL JOINTS THROUGHOUT TO BE WELDED.



GRILL ISOMETRIC
Scale: 1"=1'-0"

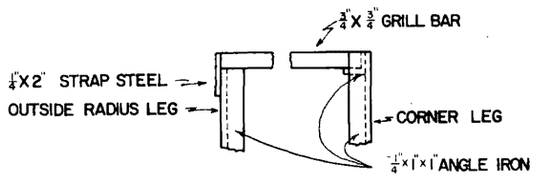


PLAN VIEW
SCALE: 1½"=1'-0"

FIRE RING NOTES:

ROCKS SHOULD BE NATURAL, UNBROKEN, AND BURIED A MINIMUM OF 1/3 TO 1/2 OF THEIR SIZE. ROCKS SHOULD BE SELECTED AND ARRANGED TO GIVE A NATURAL RUSTIC EFFECT. AS FEW AND AS LARGE ROCKS AS POSSIBLE SHOULD BE USED. GRILL BAR SURFACE SHOULD BE LOCATED 9" ABOVE GROUND LINE.

APPROVED FOR USE ONLY IN PRIMITIVE AND SEMI-PRIMITIVE SITES (EXPERIENCE LEVEL 1 AND 2).

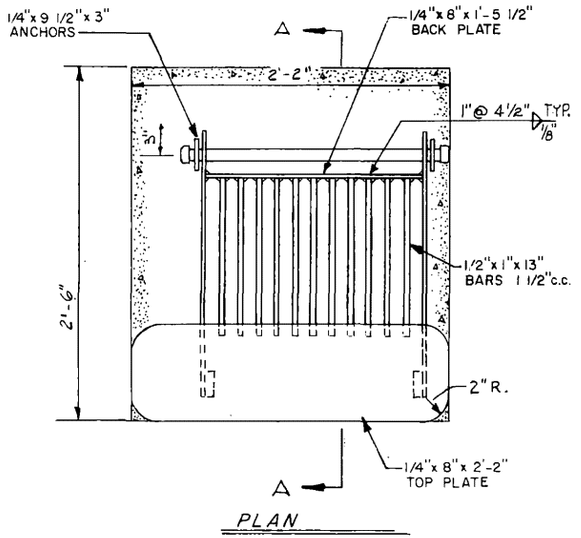


DETAIL
Scale: 3"=1'-0"

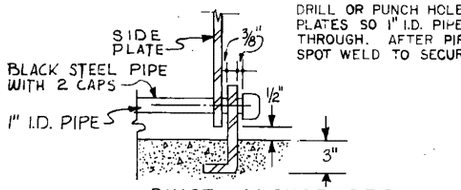
Forest Service · USDA

1 of 1

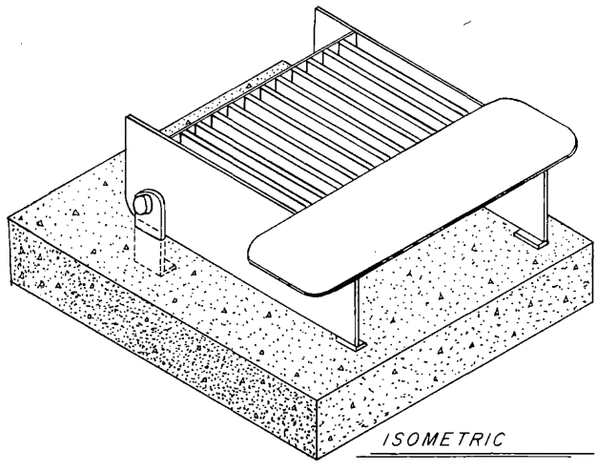
R-8
U-207
■ Details Complete
□ Details Incomplete



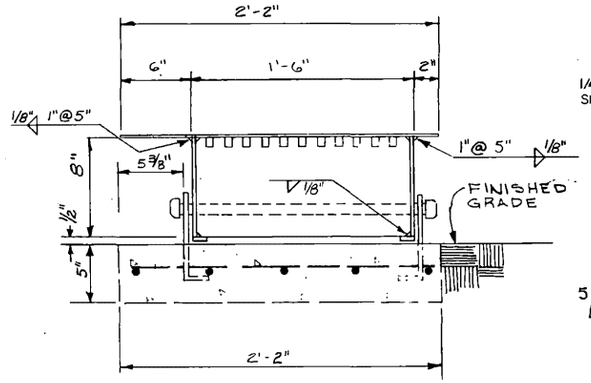
PLAN


SIDE PLATE
3/8"
BLACK STEEL PIPE WITH 2 CAPS
1" I.D. PIPE
1/2"
3"
DRILL OR PUNCH HOLE IN SIDE PLATES SO 1" I.D. PIPE CAN PASS THROUGH. AFTER PIPE IS PLACED SPOT WELD TO SECURE.

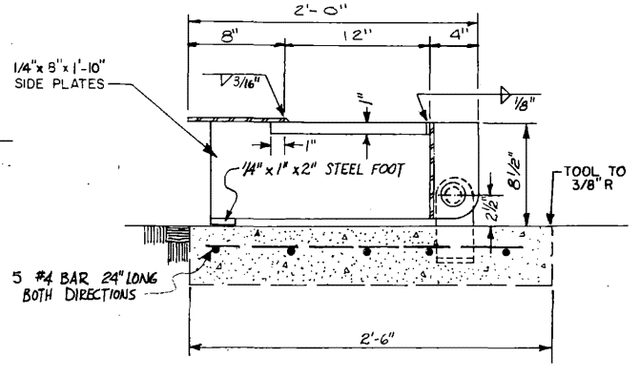
PIVOT–ANCHOR DETAIL



ISOMETRIC



FRONT ELEVATION



SECTION A-A

NOTES: GRIND ALL CUTS SMOOTH.

LIGHTLY BEVEL ALL EXPOSED EDGES OF TOP PLATE

LIGHTLY BEVEL ALL EXPOSED CORNERS OF SIDE PLATES

PLATES & BARS: ASTM A-7 OR A-36 STEEL

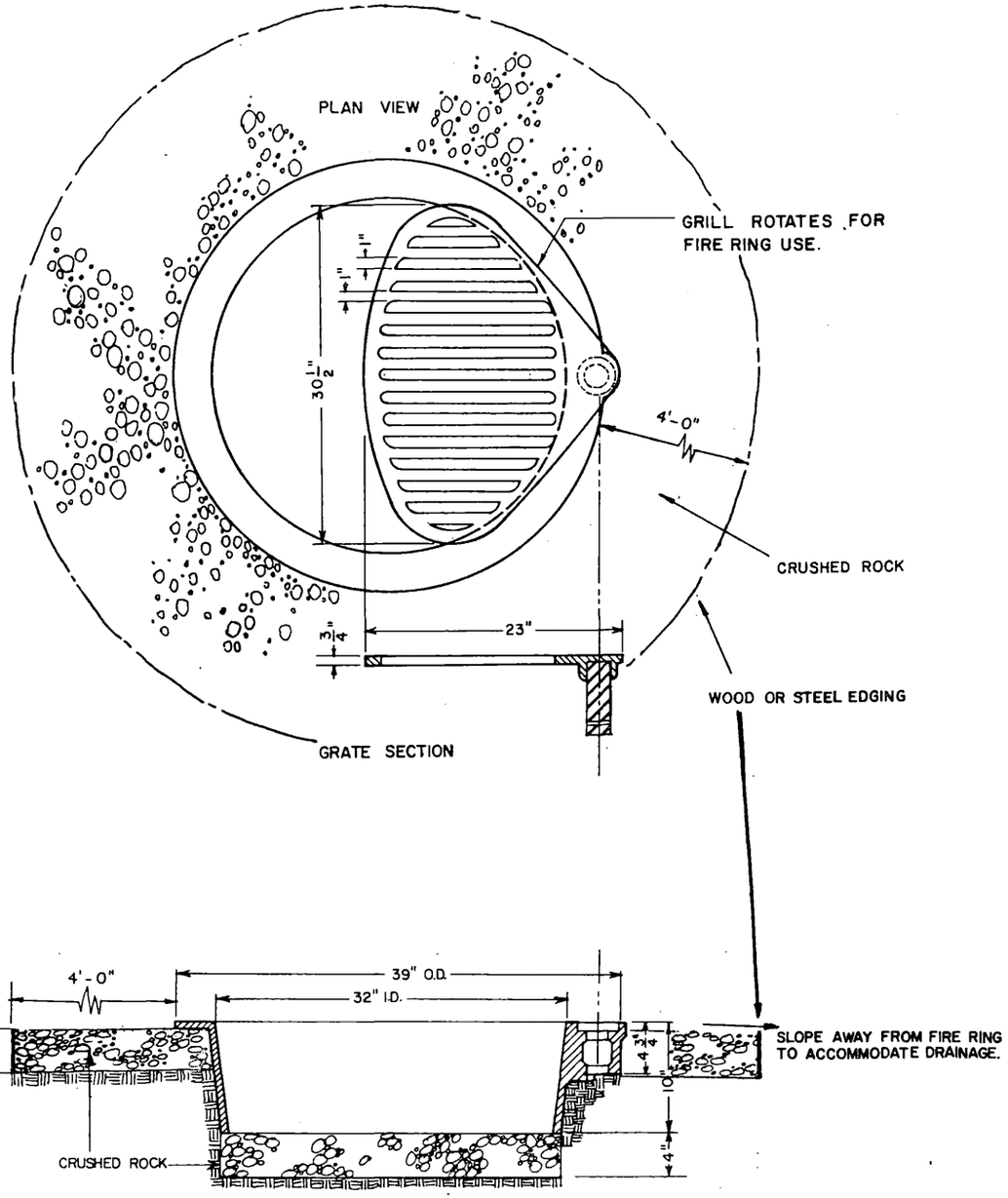
Tilt – Back Fireplace

1 of 1

R-3
PI. 14F-R3
■ Details Complete
□ Details Incomplete

Forest Service · USDA

FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE



NOTE:

USE FRAME AND GRATE NO. R-8580 BY:
NEENAH FOUNDRY CO.
500 WINNECONNE AVE.
BOX 729
NEENAH, WISCONSIN 54956
OR EQUAL.

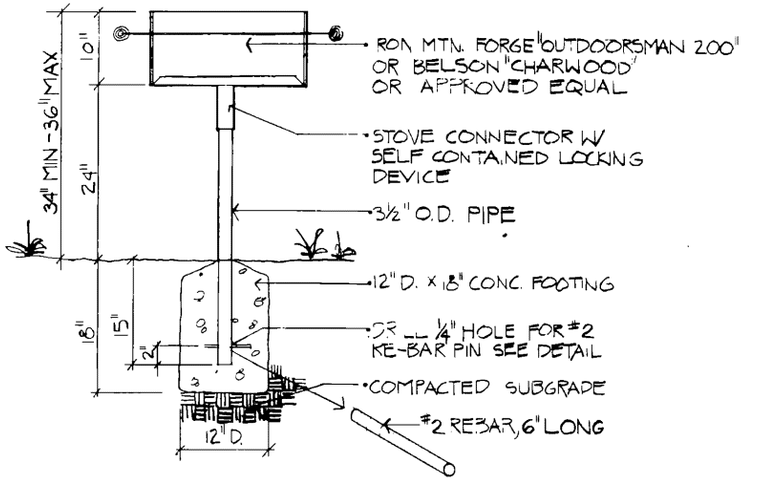
0 4" 8" 1' 2'
SCALE IN FEET

Cast Iron Fire Ring With Grate

1 of 1

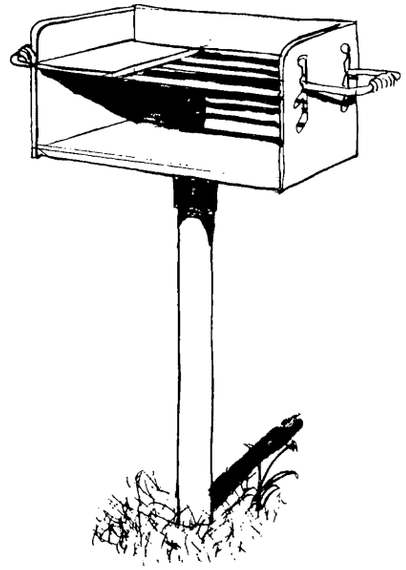
R-8
PI.22c-7901
■ Details Complete
□ Details Incomplete

Forest Service · USDA


34" MIN - 36" MAX
10"
24"
18"
15"
2"
12" D.
• RON MTN. FORGE "OUTDOORSMAN 200" OR BELSON "CHARWOOD" OR APPROVED EQUAL
• STOVE CONNECTOR W/ SELF CONTAINED LOCKING DEVICE
• 3½" O.D. PIPE
• 12" D. X 18" CONC. FOOTING
• DRILL ¼" HOLE FOR #2 RE-BAR PIN SEE DETAIL
• COMPACTED SUBGRADE
• #2 REBAR, 6" LONG

elevation **detail**

• FIREBOX SHALL HAVE A LENGTH OF 20", A WIDTH OF 15" AND A HEIGHT OF 10" AND SHALL BE FABRICATED OF 3/16" STEEL PLATE GRILL TO BE EQUIPPED WITH NON-CONDUCTIVE SPRING HANDLE GRIPS

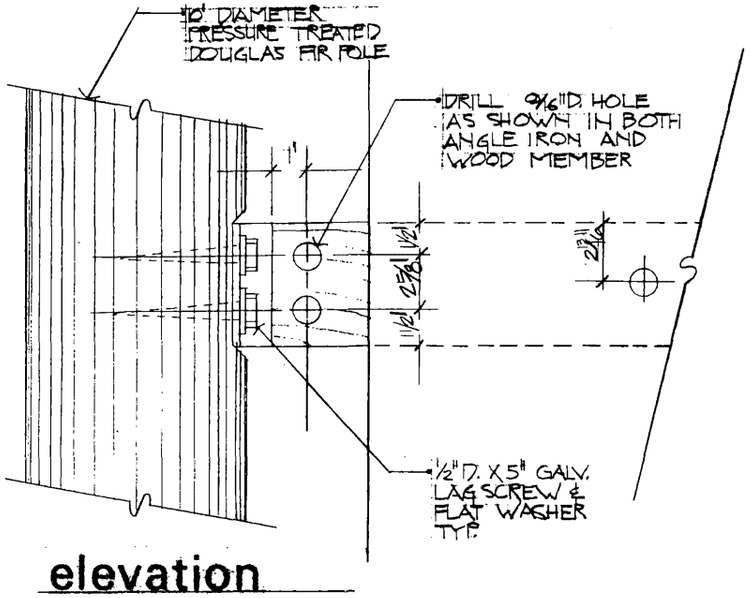


Pedestal Grill

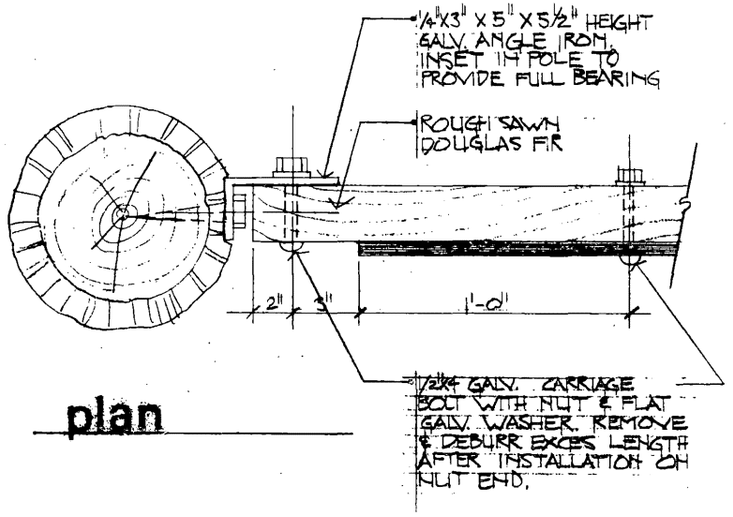
1 of 1

R-5
PI. B-7002
■ Details Complete
□ Details Incomplete

Forest Service · USDA

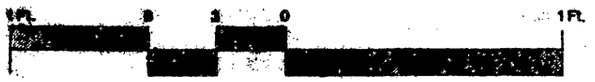

10" DIAMETER PRESSURE TREATED DOUGLAS FIR POLE
DRILL 9/16"D. HOLE AS SHOWN IN BOTH ANGLE IRON AND WOOD MEMBER
1"
2 3/16"
2 3/16"
1 1/2"
1/2" D. X 5" GALV. LAG SCREW & FLAT WASHER TYP.

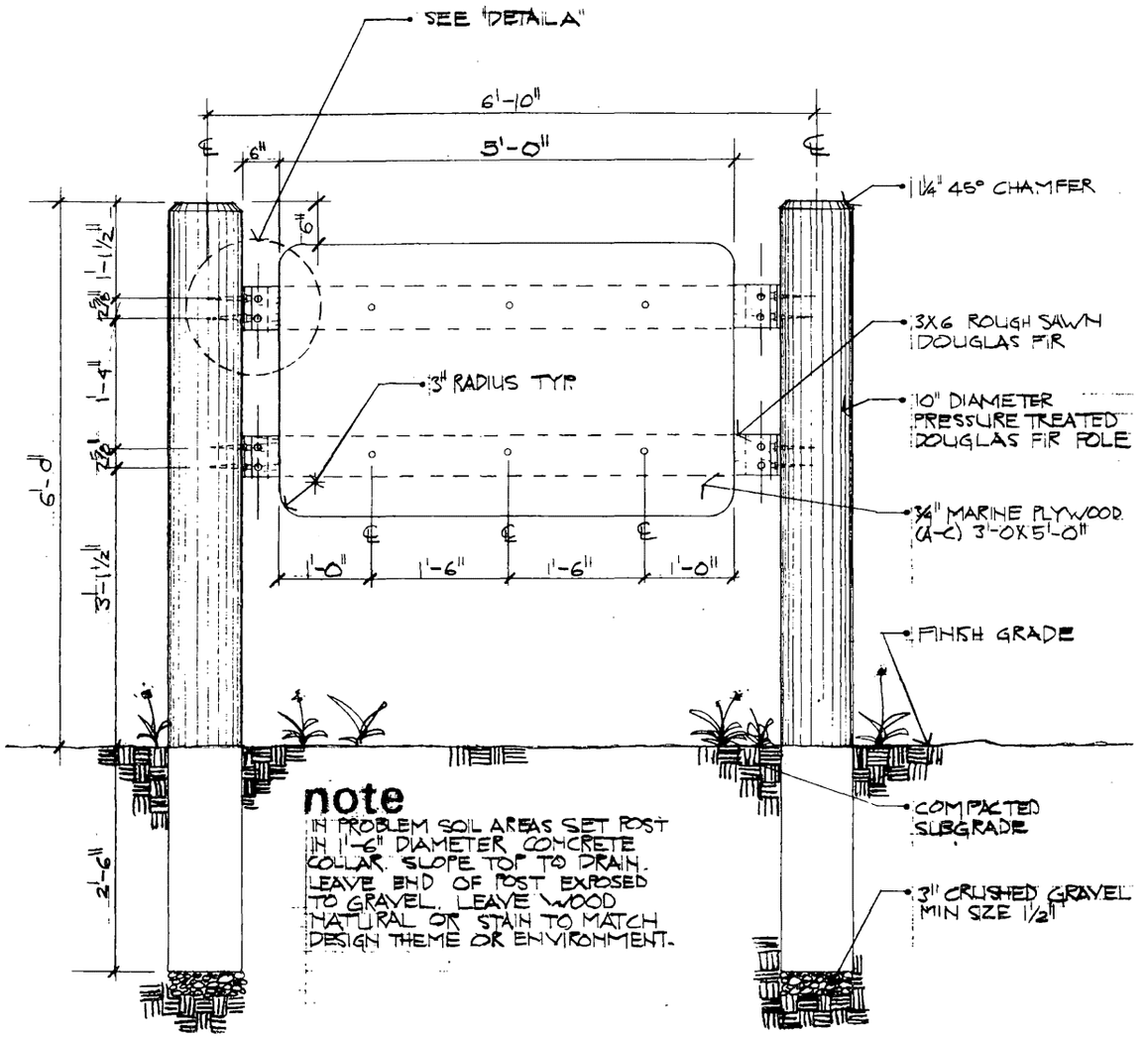
elevation


1/4"X3" x 5" X 5 1/2" HEIGHT GALV. ANGLE IRON, INSET IN POLE TO PROVIDE FULL BEARING
ROUGH SAWN DOUGLAS FIR
2"
3"
1'-0"
1/2"ø GALV. CARRIAGE BOLT WITH NUT & FLAT GALV. WASHER. REMOVE & DEBURR EXCESS LENGTH AFTER INSTALLATION ON NUT END.

plan

detail A

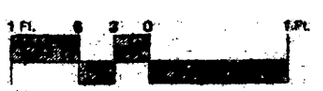




note

IN PROBLEM SOIL AREAS SET POST IN 1'-6" DIAMETER CONCRETE COLLAR. SLOPE TOP TO DRAIN. LEAVE END OF POST EXPOSED TO GRAVEL. LEAVE WOOD NATURAL OR STAIN TO MATCH DESIGN THEME OR ENVIRONMENT.

elevation



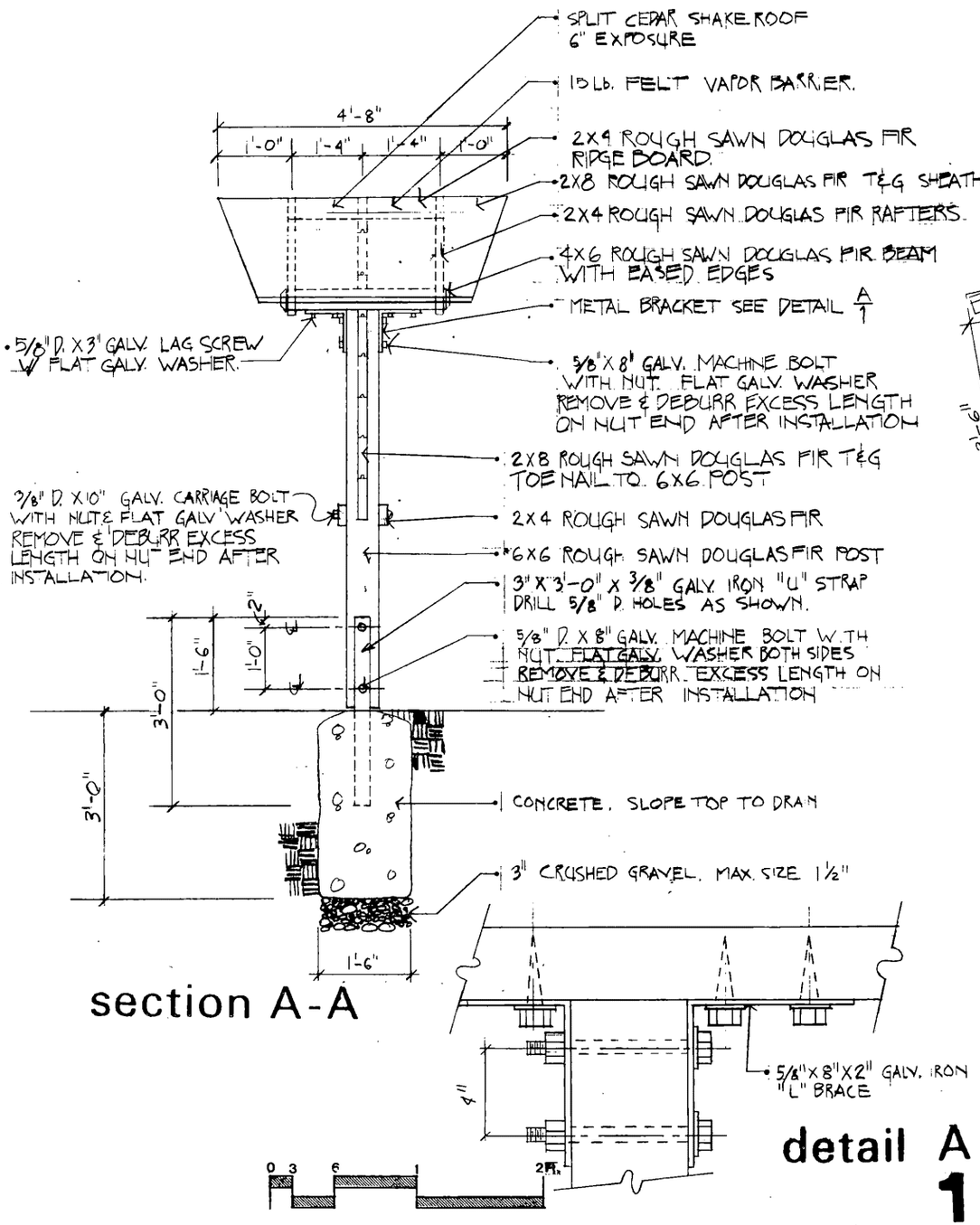
Bulletin Board
5 ft. x 3 ft.

1 of 1

R-6
D-1005
■ Details Complete
□ Details Incomplete

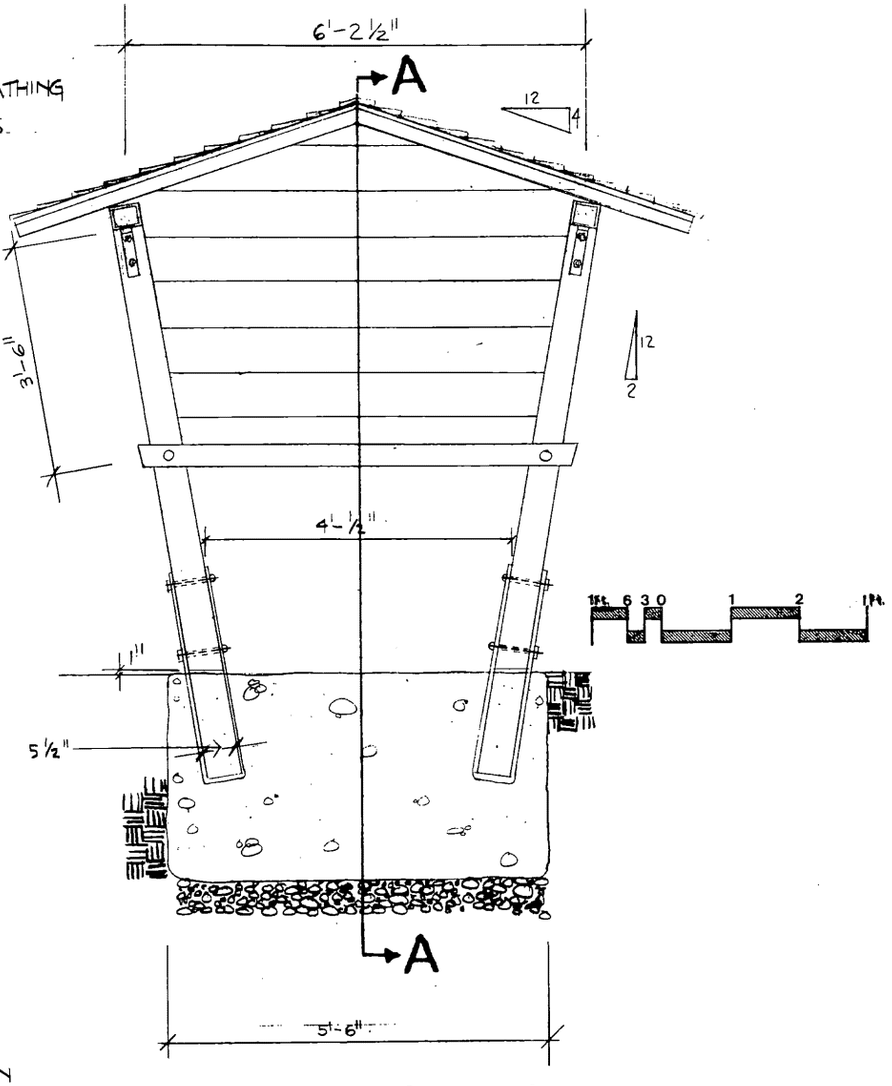
Forest Service · USDA

FOREST SERVICE
USDA
DEPARTMENT OF AGRICULTURE


SPLIT CEDAR SHAKE ROOF 6" EXPOSURE
15 LB. FELT VAPOR BARRIER.
4'-8"
1'-0"
1'-4"
1'-4"
1'-0"
2X4 ROUGH SAWN DOUGLAS FIR RIDGE BOARD.
2X8 ROUGH SAWN DOUGLAS FIR T&G SHEATHING
2X4 ROUGH SAWN DOUGLAS FIR RAFTERS.
4X6 ROUGH SAWN DOUGLAS FIR BEAM WITH EASED EDGES
METAL BRACKET SEE DETAIL A/1
5/8" D. X 3" GALV. LAG SCREW W/ FLAT GALV. WASHER.
5/8" X 8" GALV. MACHINE BOLT WITH NUT. FLAT GALV. WASHER REMOVE & DEBURR EXCESS LENGTH ON NUT END AFTER INSTALLATION
2X8 ROUGH SAWN DOUGLAS FIR T&G TOE NAIL TO 6X6 POST
3/8" D. X 10" GALV. CARRIAGE BOLT WITH NUT & FLAT GALV WASHER REMOVE & DEBURR EXCESS LENGTH ON NUT END AFTER INSTALLATION.
2X4 ROUGH SAWN DOUGLAS FIR
6X6 ROUGH SAWN DOUGLAS FIR POST
3" X 3'-0" X 3/8" GALV. IRON "U" STRAP DRILL 5/8" D. HOLES AS SHOWN.
5/8" D. X 8" GALV. MACHINE BOLT WITH NUT. FLAT GALV. WASHER BOTH SIDES REMOVE & DEBURR EXCESS LENGTH ON NUT END AFTER INSTALLATION
2"
1'-6"
1'-0"
3'-0"
3'-0"
CONCRETE. SLOPE TOP TO DRAIN
3" CRUSHED GRAVEL. MAX. SIZE 1 1/2"
1'-6"

section A-A

detail A
1



elevation

Bulletin Board
6 ft. x 3 1/2 ft.

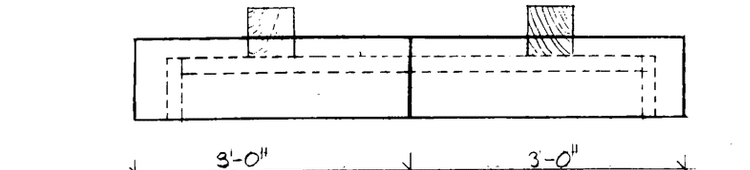
1 of 1

R-6
D-1002

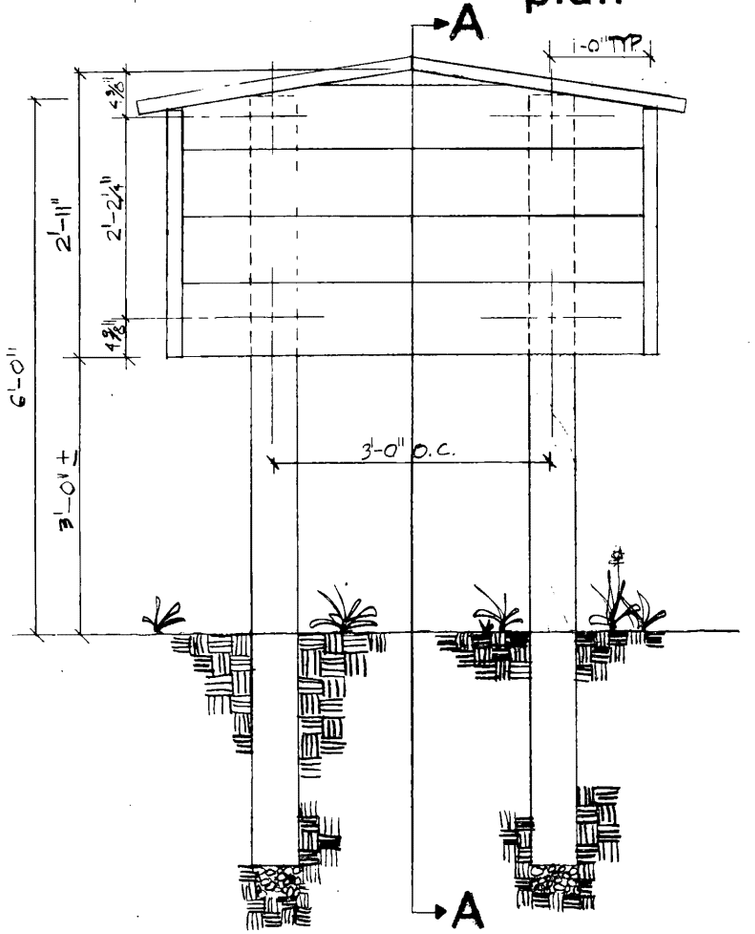
■ Details Complete
□ Details Incomplete

Forest Service · USDA

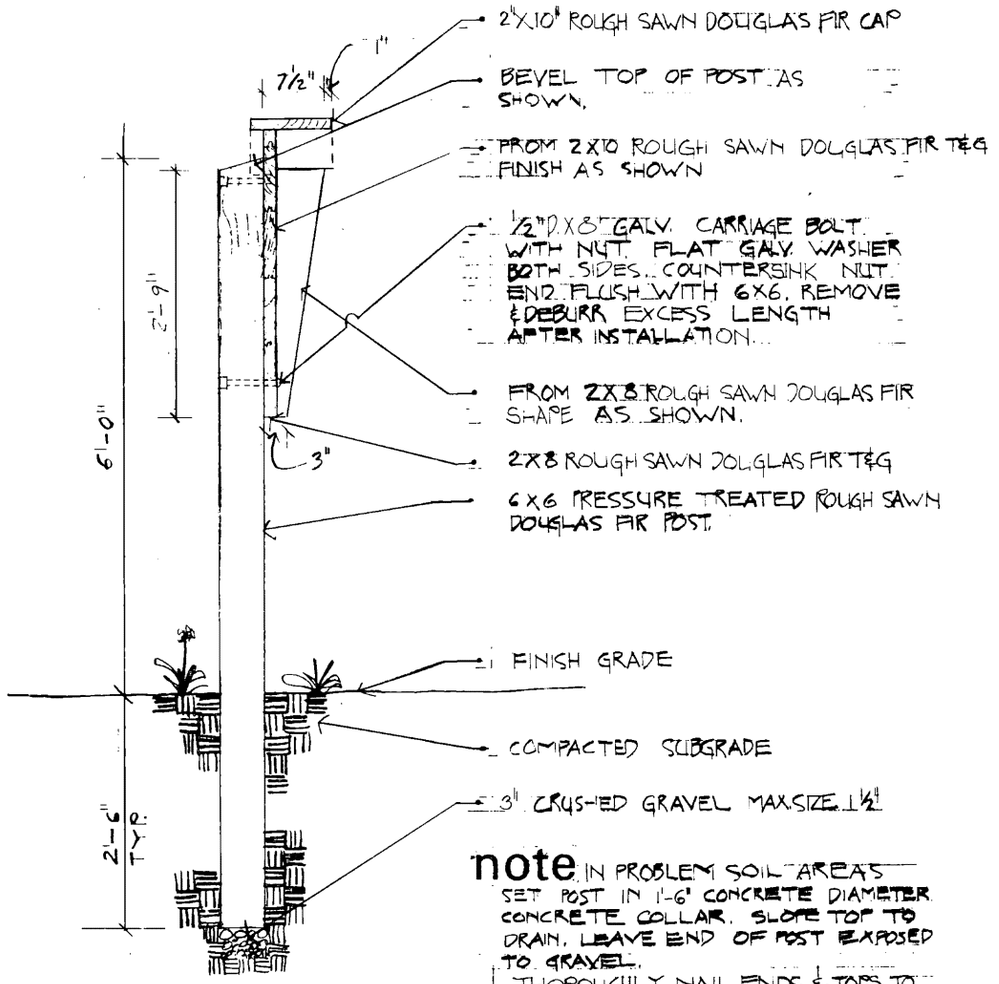
FOREST SERVICE
USDA
DEPARTMENT OF AGRICULTURE



plan



elevation


2"X10" ROUGH SAWN DOUGLAS FIR CAP
1"
7½"
BEVEL TOP OF POST AS SHOWN.
FROM 2X10 ROUGH SAWN DOUGLAS FIR T&G FINISH AS SHOWN
½"D X 8" GALV. CARRIAGE BOLT WITH NUT. FLAT GALV. WASHER BOTH SIDES. COUNTERSINK NUT END FLUSH WITH 6X6. REMOVE & DEBURR EXCESS LENGTH AFTER INSTALLATION.
FROM 2X8 ROUGH SAWN DOUGLAS FIR SHAPE AS SHOWN.
2'-9"
6'-0"
3"
2X8 ROUGH SAWN DOUGLAS FIR T&G
6X6 PRESSURE TREATED ROUGH SAWN DOUGLAS FIR POST.
FINISH GRADE
COMPACTED SUBGRADE
3" CRUSHED GRAVEL MAX.SIZE 1½"
2'-6" TYP.

section A-A

note IN PROBLEM SOIL AREAS SET POST IN 1'-6" CONCRETE DIAMETER CONCRETE COLLAR. SLOPE TOP TO DRAIN. LEAVE END OF POST EXPOSED TO GRAVEL.

THOROUGHLY NAIL ENDS & TOPS TO BOARDS WITH 16d GALV. COMMON NAILS. LEAVE WOOD NATURAL OR STAIN TO MATCH DESIGN THEME OR ENVIRONMENT.

Bulletin Board
6 ft. x 3 ft.

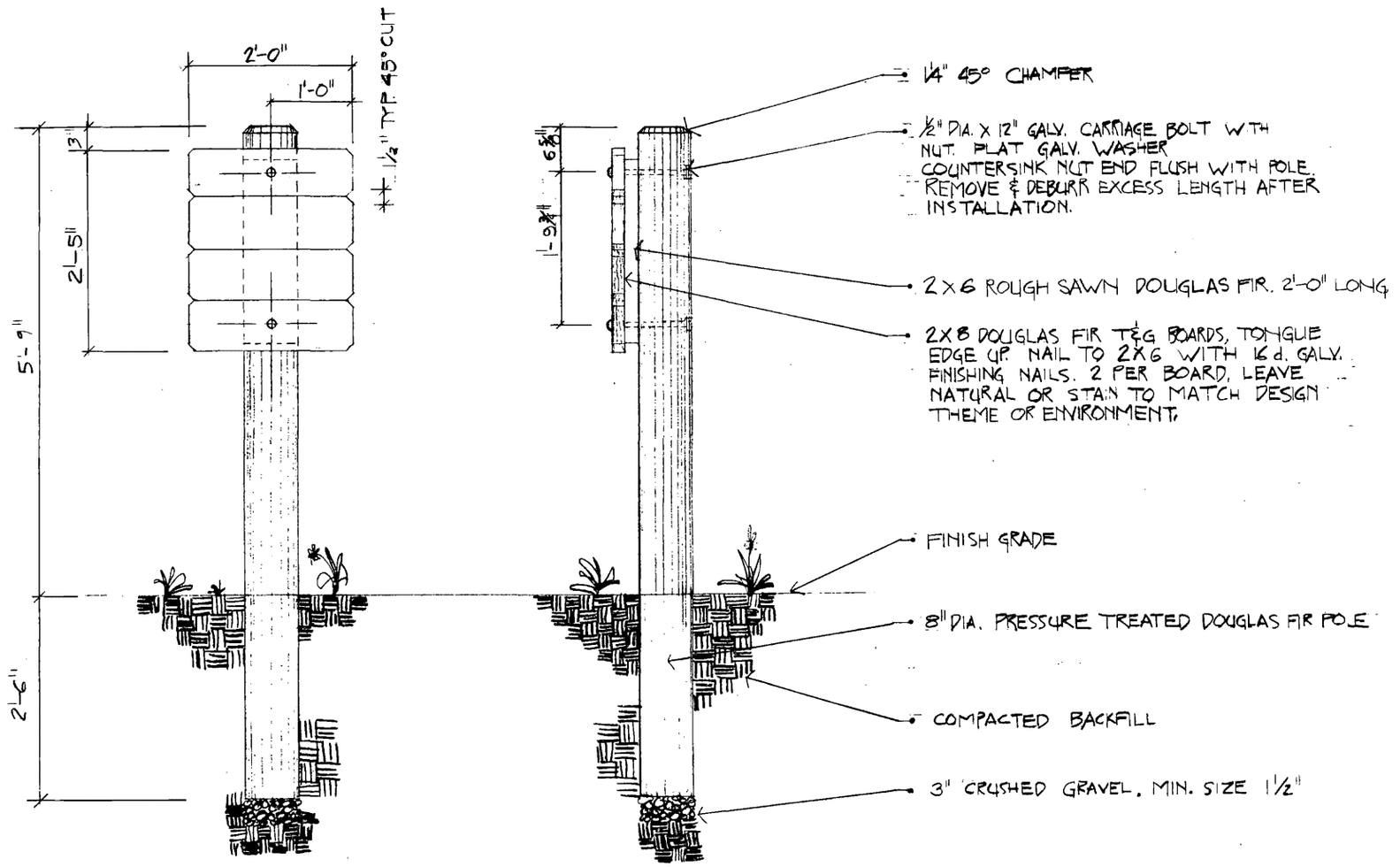
1 of 1

R-6

■ Details Complete
□ Details Incomplete

Forest Service · USDA

FOREST SERVICE · USDA · DEPARTMENT OF AGRICULTURE


2'-0"
1'-0"
1½" TYP. 45° CUT
13"
2'-5"
5'-9"
2'-6"
6⅝"
1'-9¾"
¼" 45° CHAMFER
½" DIA. X 12" GALV. CARRIAGE BOLT WITH NUT. PLAT GALV. WASHER COUNTERSINK NUT END FLUSH WITH POLE. REMOVE & DEBURR EXCESS LENGTH AFTER INSTALLATION.
2 X 6 ROUGH SAWN DOUGLAS FIR. 2'-0" LONG
2X8 DOUGLAS FIR T&G BOARDS, TONGUE EDGE UP. NAIL TO 2X6 WITH 16 d. GALV. FINISHING NAILS. 2 PER BOARD, LEAVE NATURAL OR STAIN TO MATCH DESIGN THEME OR ENVIRONMENT.
FINISH GRADE
8" DIA. PRESSURE TREATED DOUGLAS FIR POLE
COMPACTED BACKFILL
3" CRUSHED GRAVEL, MIN. SIZE 1½"
1FT. 0 1 2FT.

front elevation

right side

Bulletin Board
2 ft. x 2 1/2 ft.

1 of 1

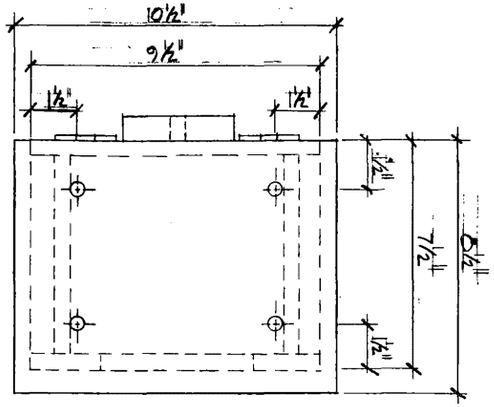
R-6

■ Details Complete
□ Details Incomplete

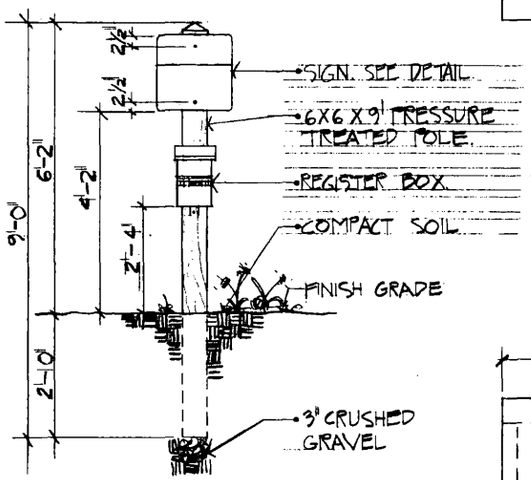
Forest Service · USDA

Wilderness Register

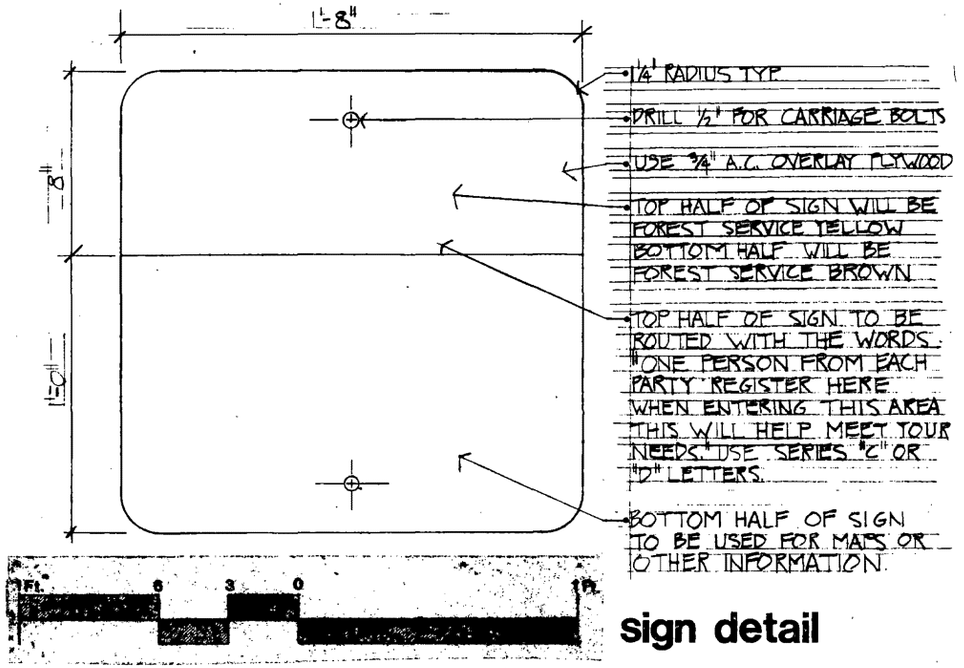
- REGISTER BOX TO BE MADE WITH ¾" MARINE PLYWOOD EXCEPT FOR FRONT AND BACK WHICH ARE ½" MARINE PLYWOOD
- FOREST SERVICE WILL PROVIDE OPERATING INSTRUCTIONS, CHAIN & PENCIL



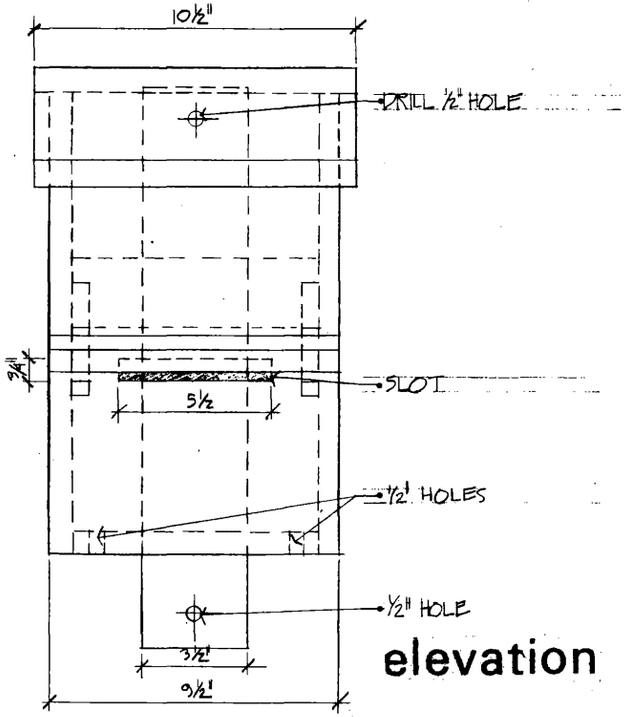
plan



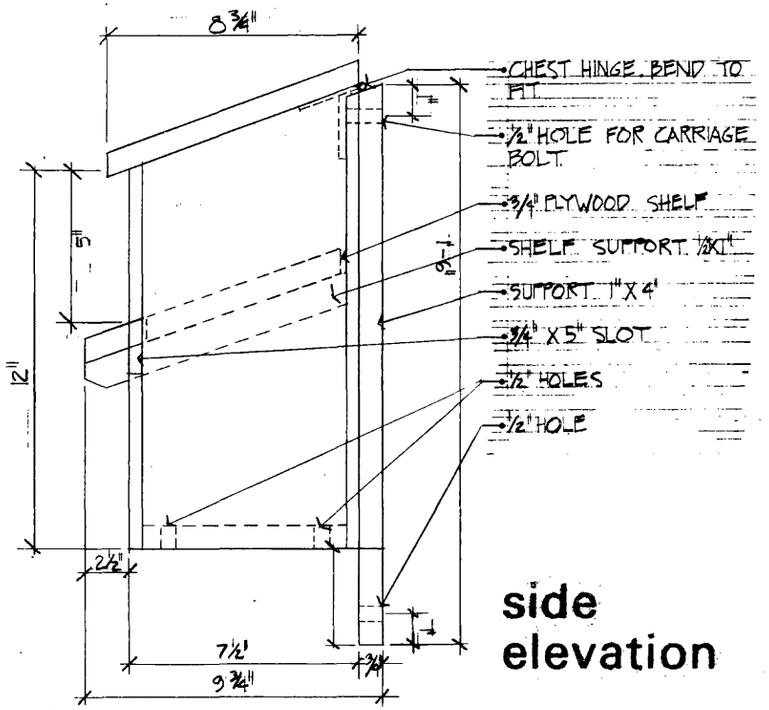
elevation


1'-8"
1'-0"
¼" RADIUS TYP
DRILL ½" FOR CARRIAGE BOLTS
USE ¾" A.C. OVERLAY PLYWOOD
TOP HALF OF SIGN WILL BE FOREST SERVICE YELLOW BOTTOM HALF WILL BE FOREST SERVICE BROWN
TOP HALF OF SIGN TO BE ROUTED WITH THE WORDS "ONE PERSON FROM EACH PARTY REGISTER HERE WHEN ENTERING THIS AREA THIS WILL HELP MEET YOUR NEEDS." USE SERIES "C" OR "D" LETTERS.
BOTTOM HALF OF SIGN TO BE USED FOR MAPS OR OTHER INFORMATION
FT. 6 3 0 1ft

sign detail



elevation



side elevation

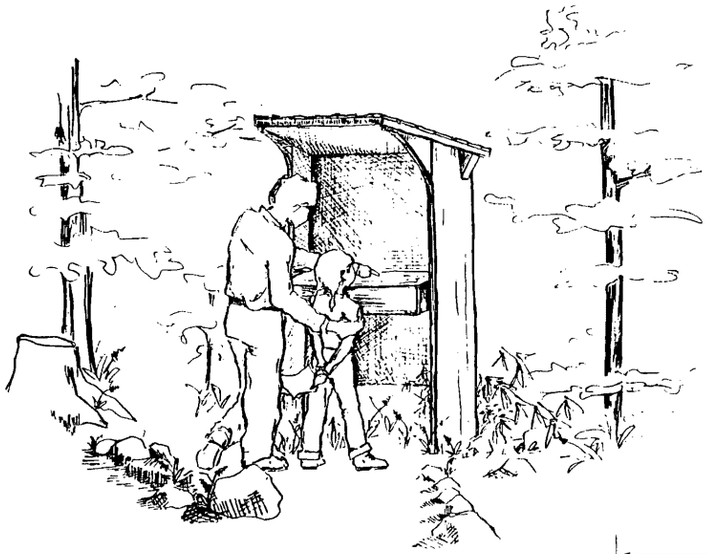
Forest Service · USDA

1 of 1

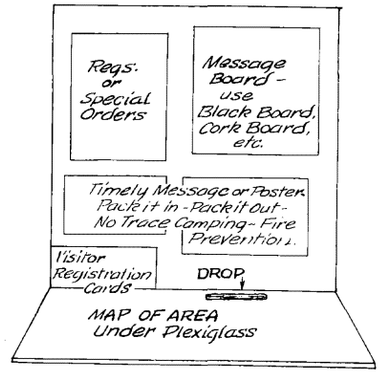
R-6
D-3000

■ Details Complete
□ Details Incomplete

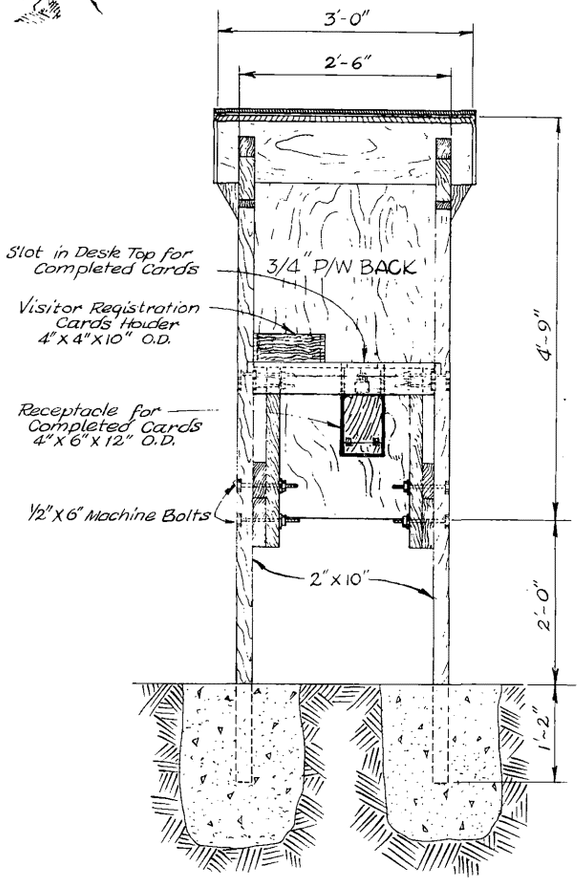
Trail Register Desk



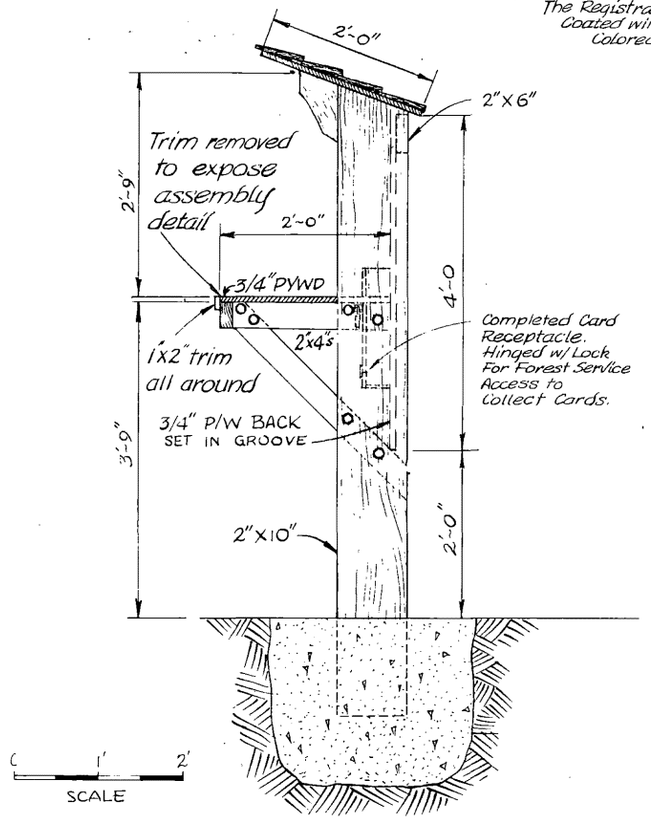
Suggested Layout for Back of Desk


Reqs. or Special Orders
Message Board - use Black Board, Cork Board, etc.
Timely Message or Poster. Pack it in - Pack it out - No Trace Camping - Fire Prevention.
Visitor Registration Cards
DROP
MAP OF AREA Under Plexiglass

NOTE:
The Registration Desk Shall be Coated with Redwood Colored Stain.



FRONT ELEVATION

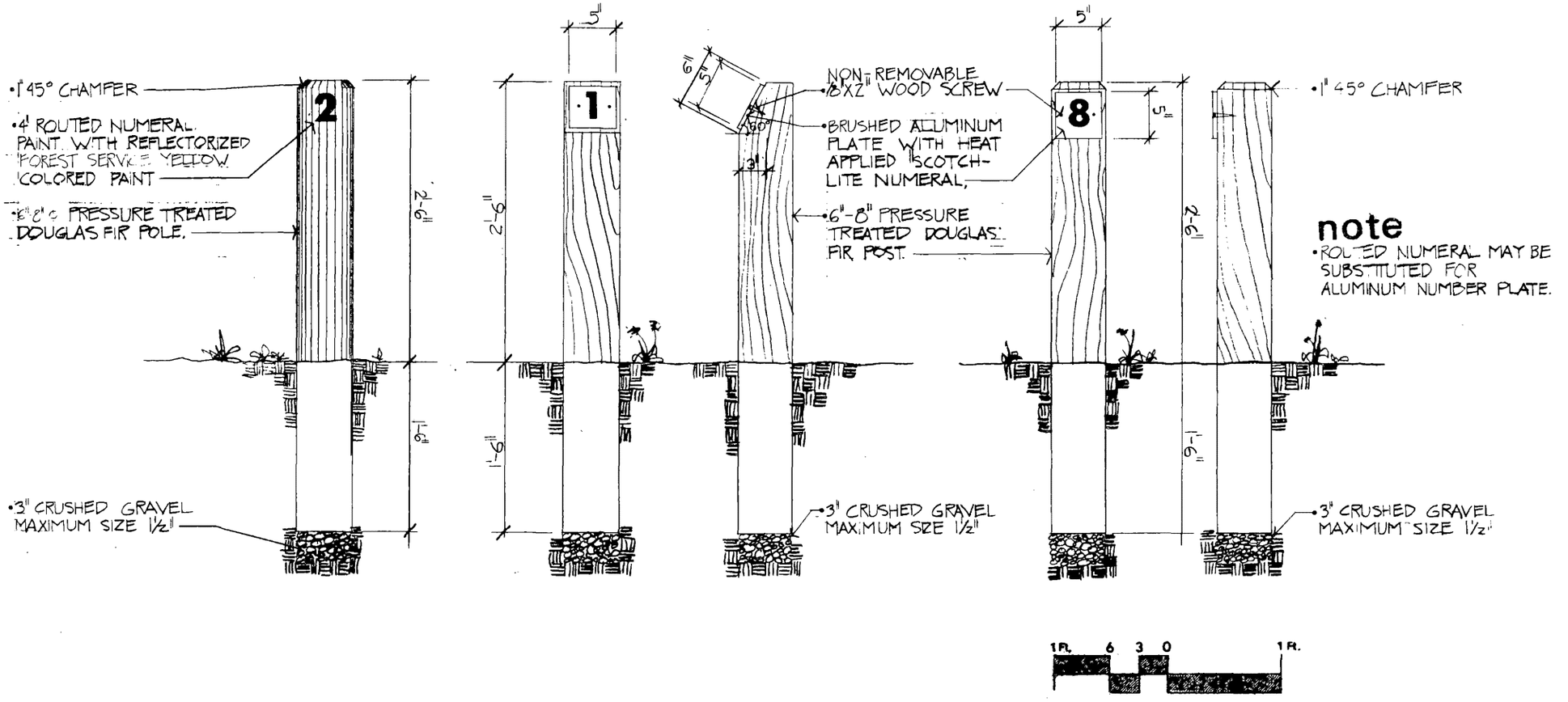


SIDE ELEVATION

Forest Service · USDA

1 of 1

R-2
PI.16-R2-A
■ Details Complete
□ Details Incomplete



note

- ROUTED NUMERAL MAY BE SUBSTITUTED FOR ALUMINUM NUMBER PLATE.

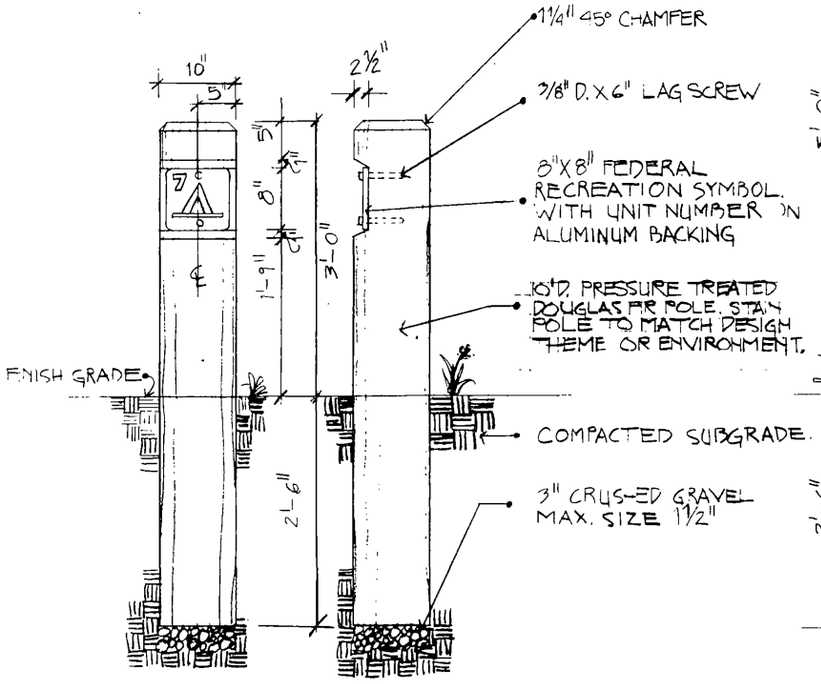
Camp Unit Number Posts

1 of 1

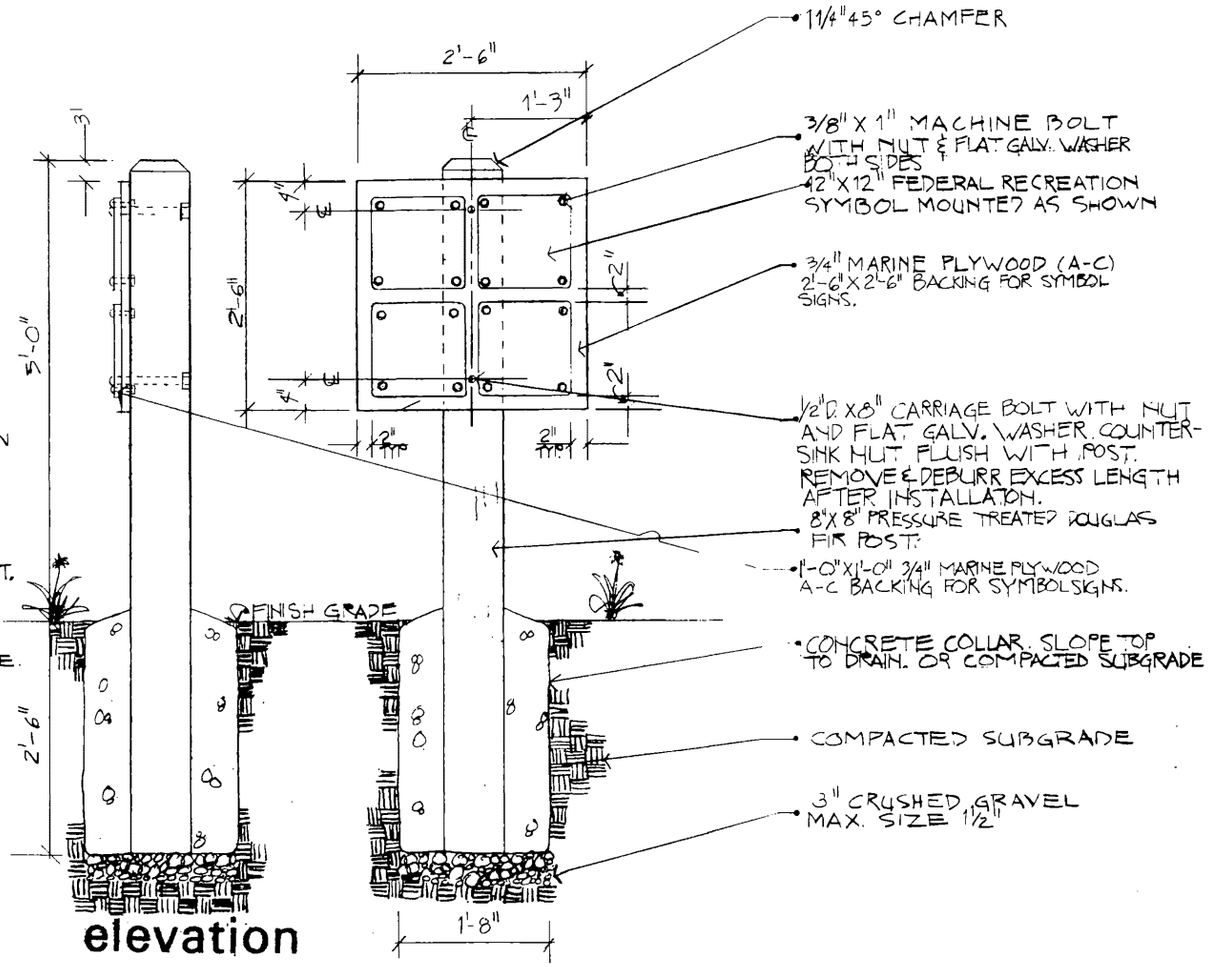
R-6
D-4010

■ Details Complete
□ Details Incomplete

Forest Service · USDA



elevation


2'-6"
1'-3"
3"
4"
5'-0"
2'-6"
2"
2"
2"
2"
1¼" 45° CHAMFER
3/8" X 1" MACHINE BOLT WITH NUT & FLAT GALV. WASHER BOTH SIDES
12"X12" FEDERAL RECREATION SYMBOL MOUNTED AS SHOWN
¾" MARINE PLYWOOD (A-C) 2'-6"X 2'-6" BACKING FOR SYMBOL SIGNS.
½"D. X8" CARRIAGE BOLT WITH NUT AND FLAT GALV. WASHER. COUNTER-SINK NUT FLUSH WITH POST. REMOVE & DEBURR EXCESS LENGTH AFTER INSTALLATION.
8"X 8" PRESSURE TREATED DOUGLAS FIR POST.
1'-0"X1'-0" ¾" MARINE PLYWOOD A-C BACKING FOR SYMBOL SIGNS.
FINISH GRADE
CONCRETE COLLAR. SLOPE TOP TO DRAIN. OR COMPACTED SUBGRADE
COMPACTED SUBGRADE
3" CRUSHED GRAVEL MAX. SIZE 1½"
1'-8"

elevation

notes

STAIN ALL WOOD TO MATCH DESIGN THEME OR ENVIRONMENT.
OPTIONAL 8X8 PRESSURE TREATED ROUGH SAWN DOUGLAS FIR POST.

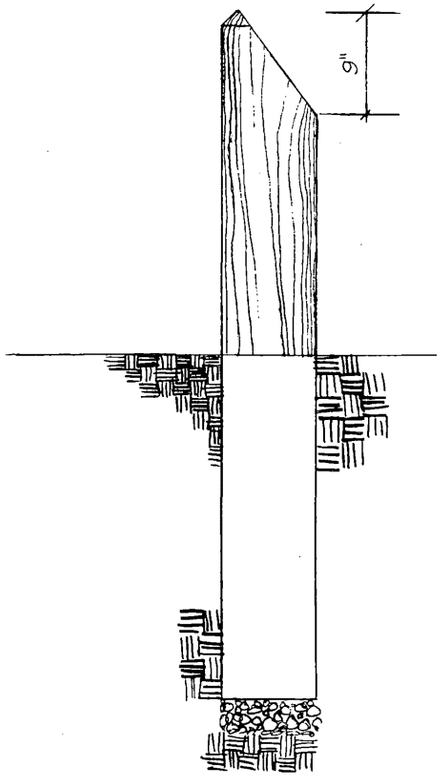
Camp Unit Number Post & Symbol Sign Post

1 of 1

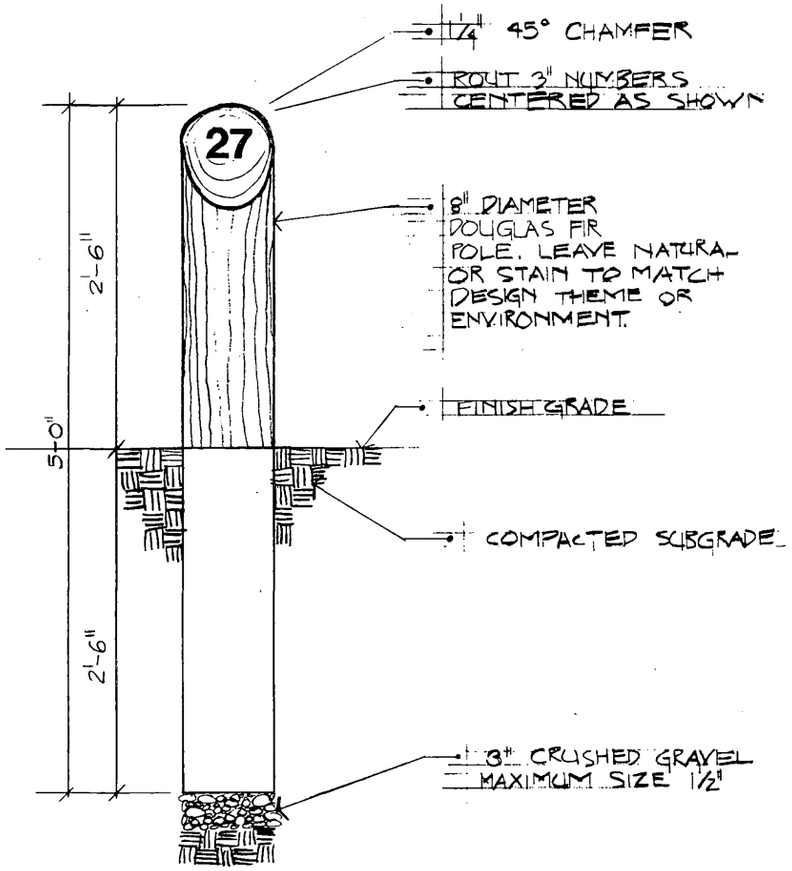
R-6
D 4003

■ Details Complete
□ Details Incomplete

Forest Service · USDA



side elevation



front elevation

Camp Unit Number Post

1 of 1

R-6
D 4006

■ Details Complete
□ Details Incomplete

Forest Service · USDA

MATERIAL LIST

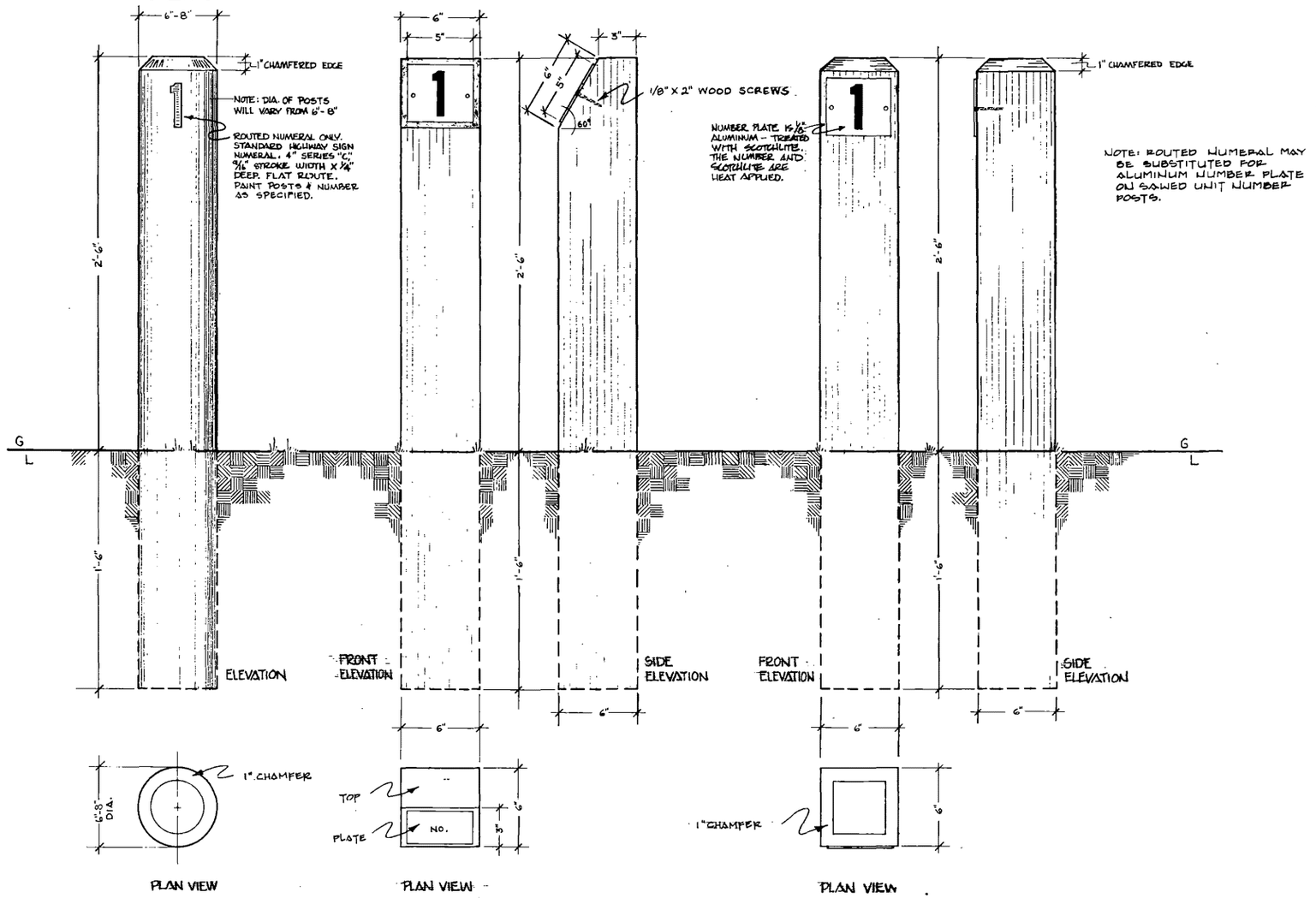
QTY.	ITEM	REMARKS
	ROUND UNIT NUMBER POST	
1	CEDAR OR PRESSURE-TREATED POST.	4" X 6" TO 8" DIA. (VARIES)
	—FINISHES—	
	REFLECTORIZED STANDARD CREAM COLORED PAINT	ROUTED NUMERAL PAINT
	USFS STANDARD BROWN PAINT	AS NEEDED
	SAWED UNIT NUMBER POSTS	
1	REDWOOD, CEDAR, OR PRESSURE TREATED POST	4" X 6" X 6"
1	ALUMINUM TREATED PLATE WITH HEAT APPLIED SCOTCHLITE NUMBER OR EQUAL.	5" X 5" X 1/8". ROUTED NUMERAL MAY REPLACE THIS ITEM.
2	WOOD SCREWS	1/8" X 2". TO BE USED WITH ALUMINUM PLATE.
	—FINISHES—	
	REFLECTORIZED STANDARD CREAM COLORED PAINT	IF ROUTED NUMERAL TO BE USED.
	USFS STANDARD BROWN PAINT	AS NEEDED. SEE SPECIFICATIONS

0" 2" 4" 8" 1'
SCALE

ROUND UNIT NUMBER POST

6"-8"
1" CHAMFERED EDGE
NOTE: DIA. OF POSTS WILL VARY FROM 6"-8"
ROUTED NUMERAL ONLY. STANDARD HIGHWAY SIGN NUMERAL. 4" SERIES "C" 9/16" STROKE WIDTH X 1/4" DEEP. FLAT ROUTE. PAINT POSTS & NUMBER AS SPECIFIED.
2'-6"
1'-6"
G L
ELEVATION
1" CHAMFER
6"-8" DIA.
PLAN VIEW

SAWED UNIT NUMBER POSTS



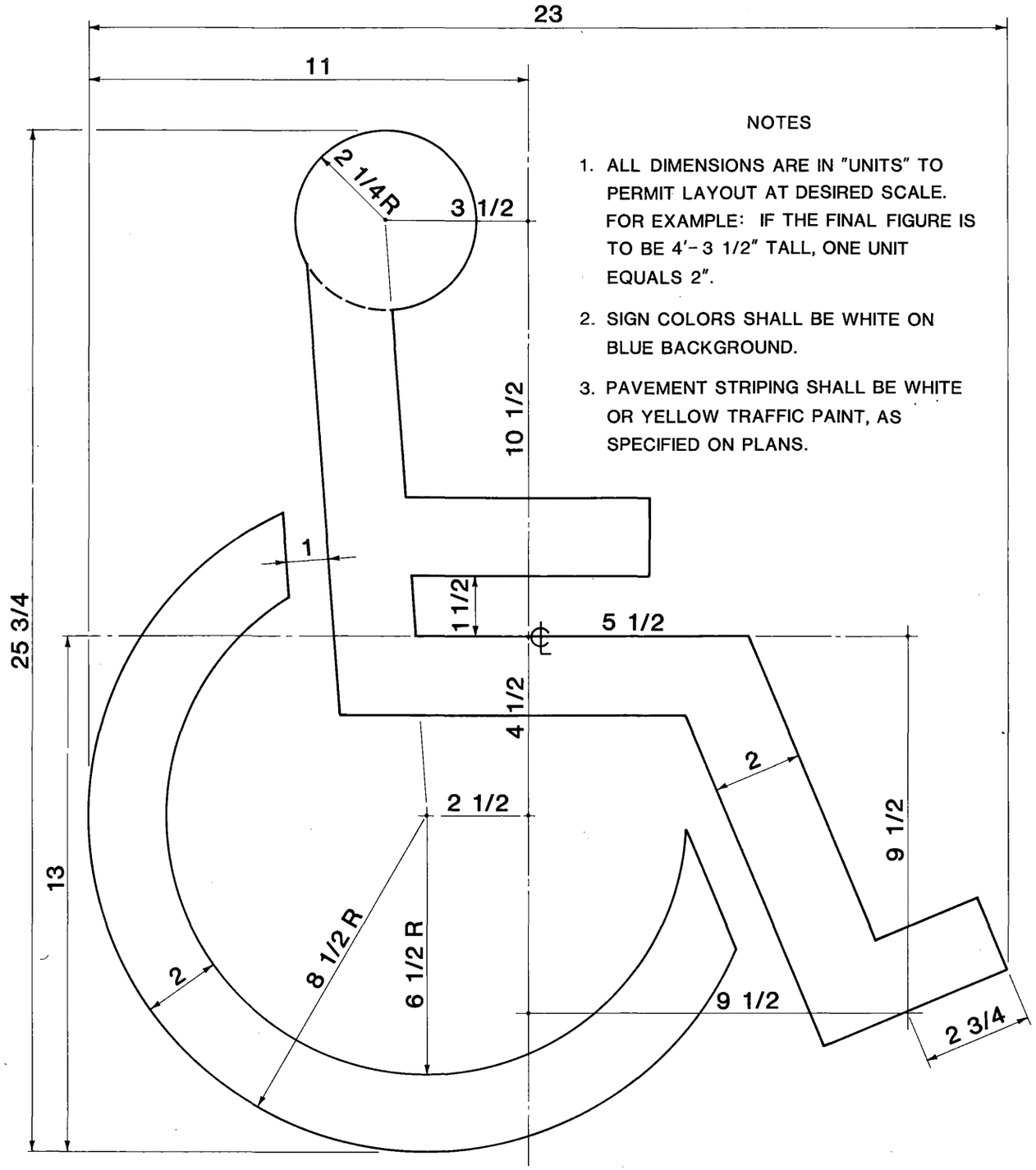
Camp Unit Number Posts

1 of 1

R-4

■ Details Complete
□ Details Incomplete

Forest Service · USDA



NOTES

1. ALL DIMENSIONS ARE IN "UNITS" TO PERMIT LAYOUT AT DESIRED SCALE. FOR EXAMPLE: IF THE FINAL FIGURE IS TO BE 4'-3 1/2" TALL, ONE UNIT EQUALS 2".
2. SIGN COLORS SHALL BE WHITE ON BLUE BACKGROUND.
3. PAVEMENT STRIPING SHALL BE WHITE OR YELLOW TRAFFIC PAINT, AS SPECIFIED ON PLANS.

Standard Handicapped Symbol With Ratioed Dimensions

1 of 1

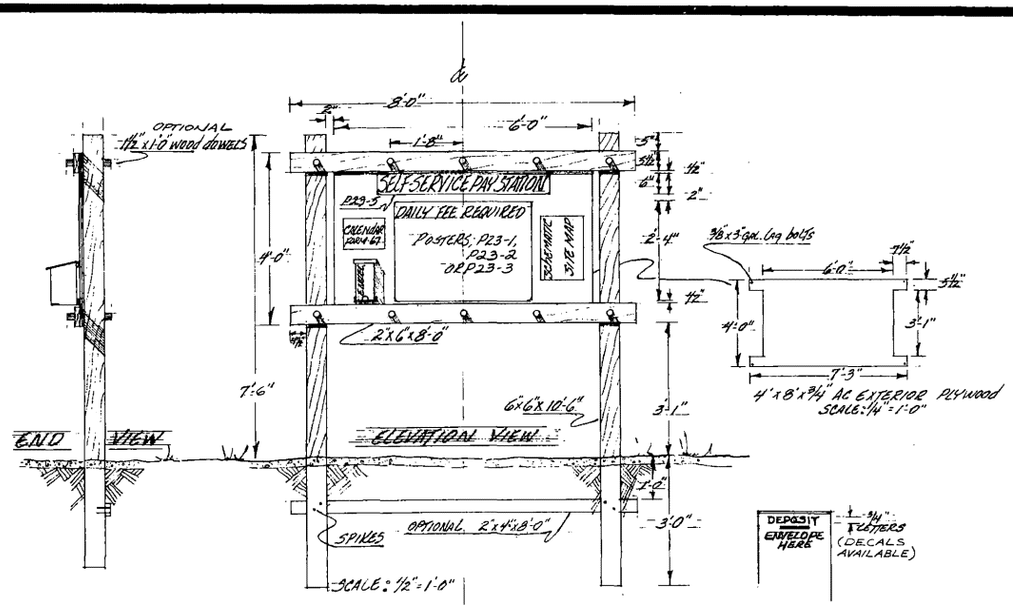
R-3

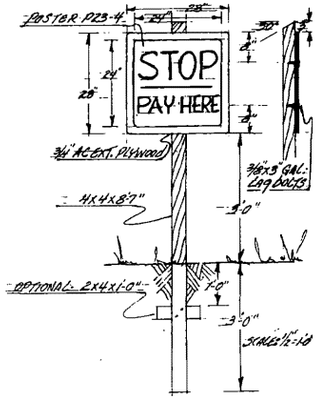
PI. 25H

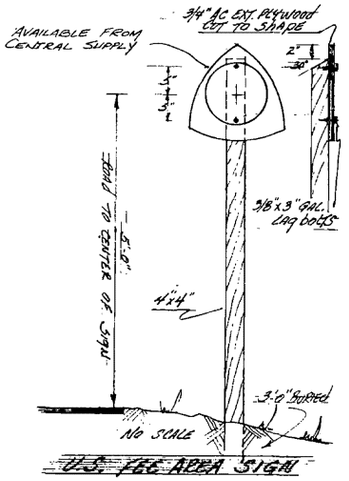
■ Details Complete
□ Details Incomplete

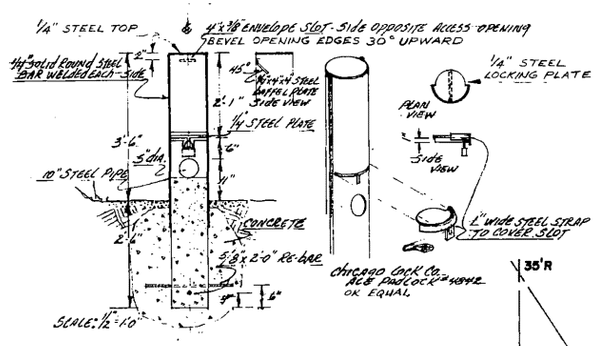
Forest Service · USDA

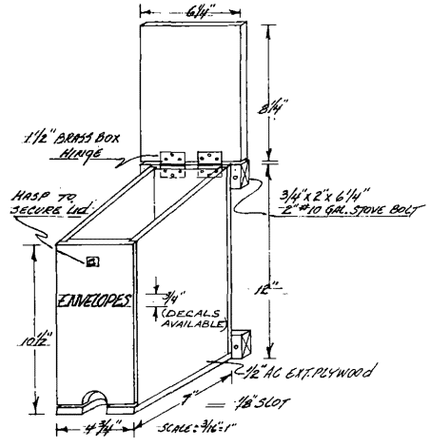
Fee Collection Station







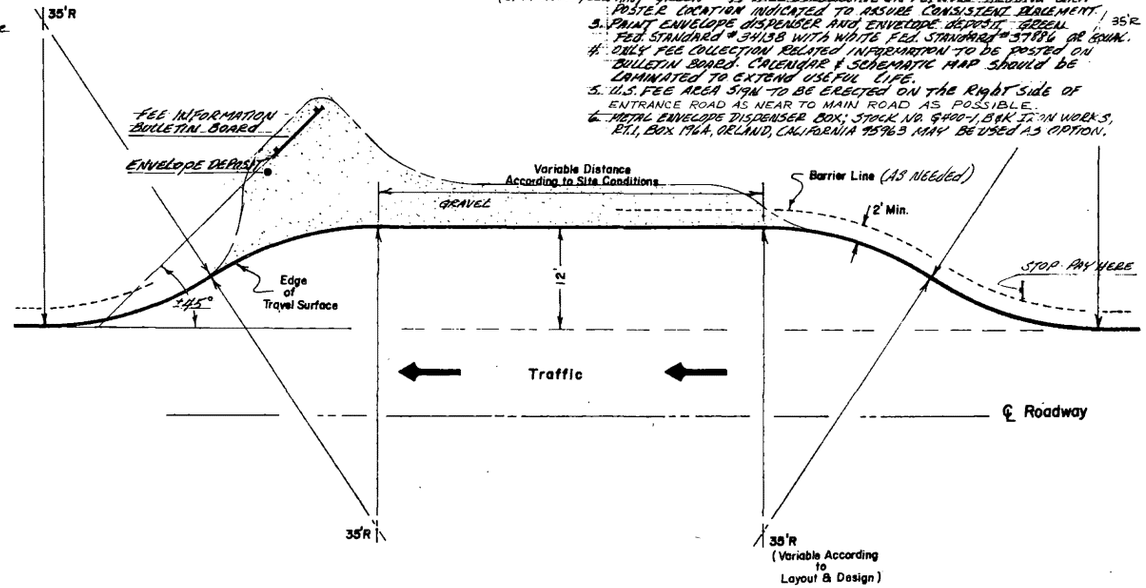

¼" STEEL TOP
4"x3⅜" ENVELOPE SLOT - SIDE OPPOSITE ACCESS OPENING BEVEL OPENING EDGES 30° UPWARD
½" Solid Round Steel BAR WELDED EACH SIDE
2½"x4"x¼" STEEL BAFFLE PLATE Side View
¼" STEEL PLATE
10" STEEL PIPE
CONCRETE
⅝"x2'-0" RE-BAR
¼" STEEL LOCKING PLATE
PLAN VIEW
Side View
1" wide STEEL STRAP TO COVER SLOT
CHICAGO LOCK Co. ACE PADLOCK #1696R OR EQUAL
SCALE: ½" = 1'-0"



Scale 1" = 10'

NOTES:

1. PENTA TREAT ALL WOOD AFTER MILL WORK BY COLD SOAKING OR BRUSHING (PLYWOOD). CAP TOP EXPOSED PLYWOOD EDGES WITH 1¼"x¾" STRIP glued (Fiphtboard) & TACKED. STAIN ALL WOOD PARTS F.P.I. CEDAR BROWN.
2. (OPTIONAL) PAINT GREEN ¼" wide barberline on PLYWOOD around each POSTER LOCATION INDICATED TO ASSURE CONSISTENT PLACEMENT.
3. PAINT ENVELOPE DISPENSER AND ENVELOPE DEPOSIT GREEN. FED STANDARD #34138 WITH WHITE FED. STANDARD #37886 OR EQUAL.
4. DAILY FEE COLLECTION RELATED INFORMATION TO BE POSTED ON BULLETIN BOARD. CALENDAR & SCHEMATIC MAP SHOULD BE LAMINATED TO EXTEND USEFUL LIFE.
5. U.S. FEE AREA SIGN TO BE ERECTED ON THE Right Side OF ENTRANCE ROAD AS NEAR TO MAIN ROAD AS POSSIBLE.
6. METAL ENVELOPE DISPENSER BOX; STOCK NO. 9400-1, B&K IRON WORKS, P.O. Box 1964, ORLAND, CALIFORNIA 95963 MAY BE USED AS OPTION.

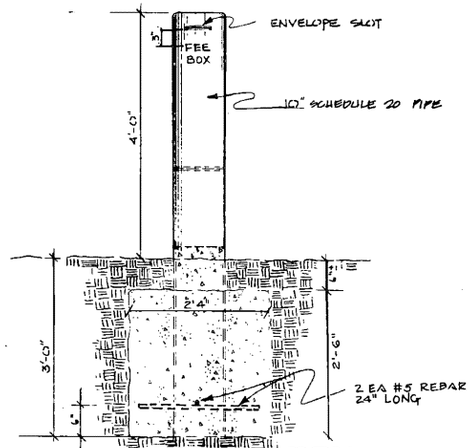


Forest Service · USDA

1 of 1

R-9
U-199-01
■ Details Complete
□ Details Incomplete

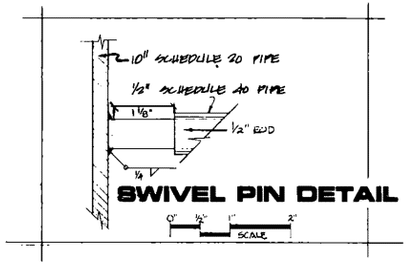
Fee Collection Box



FEE COLLECTION BOX FRONT ELEVATION

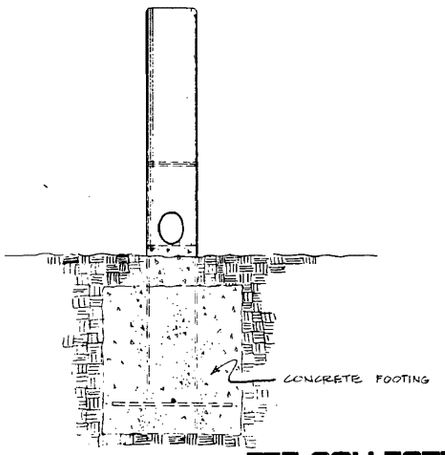
SCALE 0" 6" 1' 2'

NOTE: INSTALL TOP PLATE AS LAST STEP TO ALLOW REMOVAL OF WELDING "BURRS" NEAR DOLLAR DAMPER



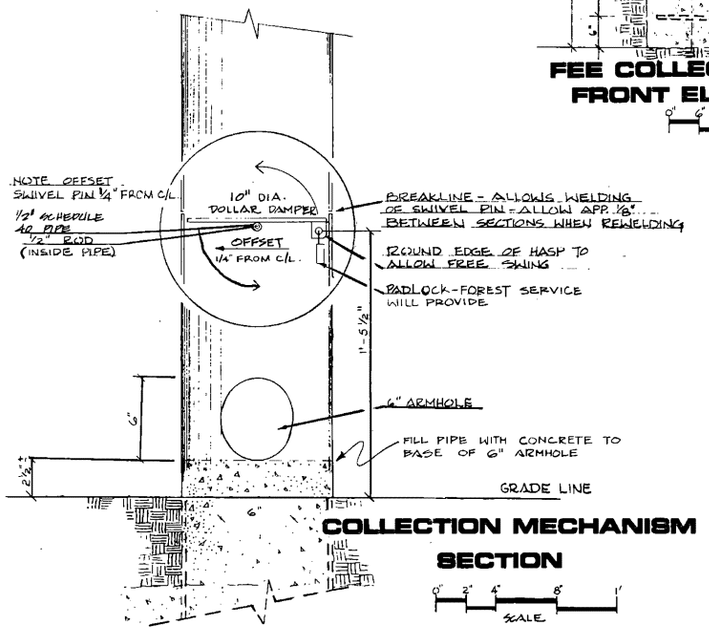
SWIVEL PIN DETAIL

SCALE 0" ½" 1" 2"



FEE COLLECTION BOX REAR ELEVATION

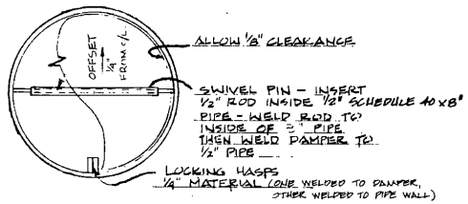
SCALE 0" 6" 1' 2'


NOTE OFFSET SWIVEL PIN ¼" FROM C/L
½" SCHEDULE 40 PIPE
½" ROD (INSIDE PIPE)
10" DIA. DOLLAR DAMPER
OFFSET ¼" FROM C/L
BREAKLINE - ALLOWS WELDING OF SWIVEL PIN - ALLOW APP. ⅛" BETWEEN SECTIONS WHEN REWELDING
ROUND EDGE OF HASP TO ALLOW FREE SWING
PADLOCK-FOREST SERVICE WILL PROVIDE
11-5½"
6" ARMHOLE
FILL PIPE WITH CONCRETE TO BASE OF 6" ARMHOLE
GRADE LINE
6"
2½"

COLLECTION MECHANISM SECTION

SCALE 0" 2" 4" 6" 1'

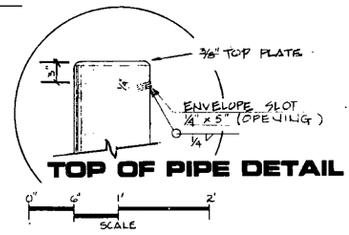
NOTE: OFFSET SWIVEL PIN ¼" FROM ℄ AWAY FROM HASPS


OFFSET ¼" FROM ℄
ALLOW ⅛" CLEARANCE
SWIVEL PIN - INSERT ½" ROD INSIDE ½" SCHEDULE 40 x 8" PIPE - WELD ROD TO INSIDE OF 3" PIPE, THEN WELD DAMPER TO ½" PIPE
LOCKING HASPS ¼" MATERIAL (ONE WELDED TO DAMPER, OTHER WELDED TO PIPE WALL)

DOLLAR DAMPER PLAN VIEW

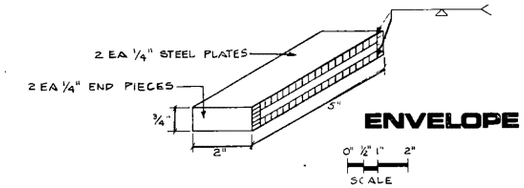
(FROM UNDERSIDE)

SCALE 0" 2" 4" 6" 1'



TOP OF PIPE DETAIL

SCALE 0" 6" 1' 2'



ENVELOPE SLOT

SCALE 0" ½" 1" 2"

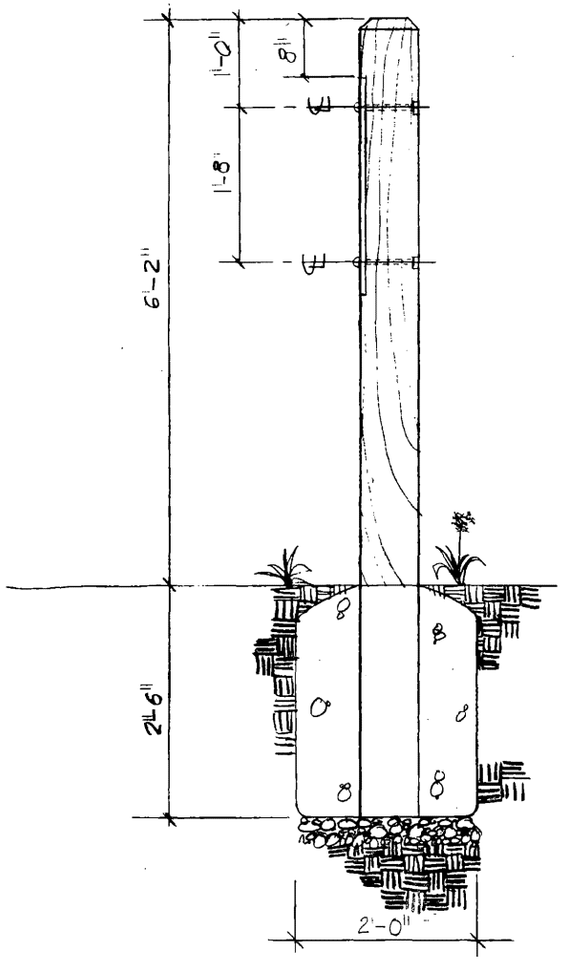
Forest Service · USDA

1 of 1

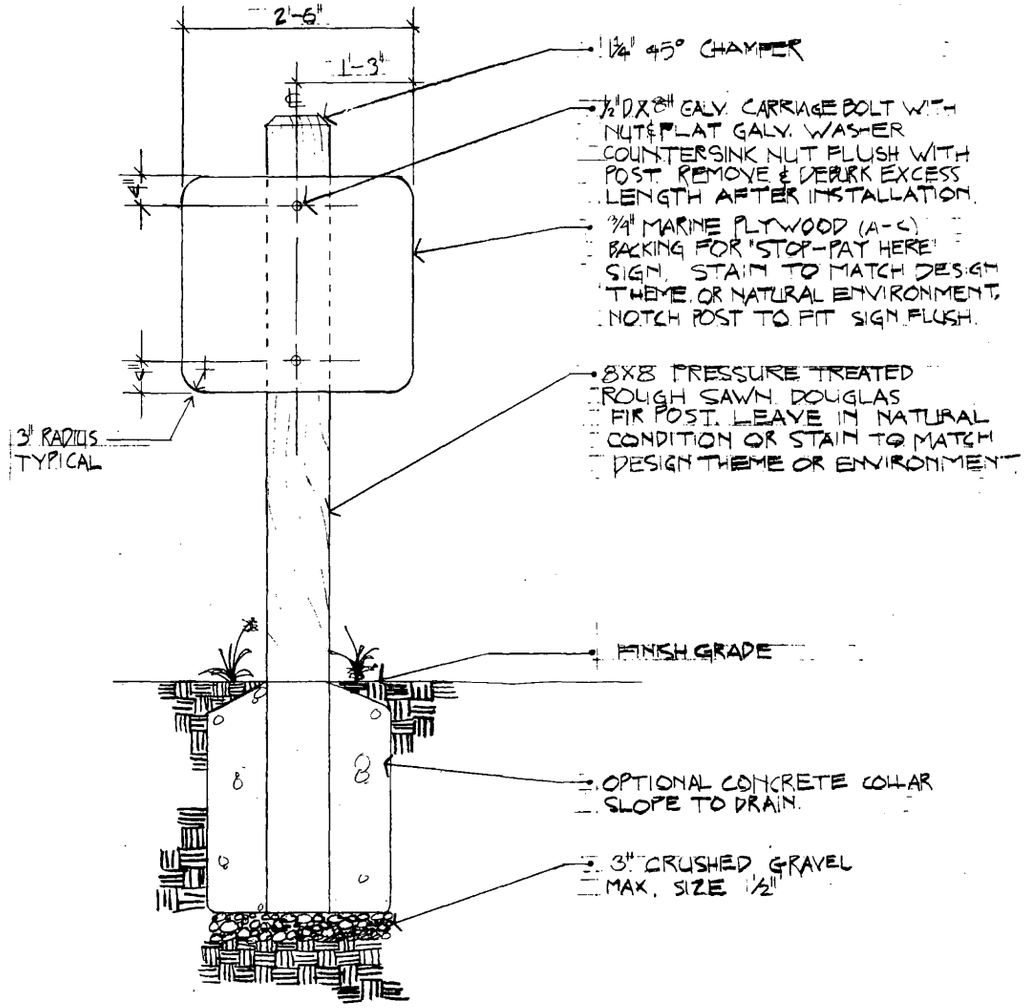
R-4
PI.11518

■ Details Complete
□ Details Incomplete

"Stop Pay Here" Sign



side elevation


2'-6"
1'-3"
1¼" 45° CHAMFER
½" DX 8" GALV. CARRIAGE BOLT WITH NUT & FLAT GALV. WASHER COUNTERSINK NUT FLUSH WITH POST. REMOVE & DEBURR EXCESS LENGTH AFTER INSTALLATION.
¾" MARINE PLYWOOD (A-C) BACKING FOR "STOP-PAY HERE" SIGN. STAIN TO MATCH DESIGN THEME OR NATURAL ENVIRONMENT. NOTCH POST TO FIT SIGN FLUSH.
8X8 PRESSURE TREATED ROUGH SAWN DOUGLAS FIR POST. LEAVE IN NATURAL CONDITION OR STAIN TO MATCH DESIGN THEME OR ENVIRONMENT
3" RADIUS TYPICAL
FINISH GRADE
OPTIONAL CONCRETE COLLAR SLOPE TO DRAIN.
3" CRUSHED GRAVEL MAX. SIZE 1½"

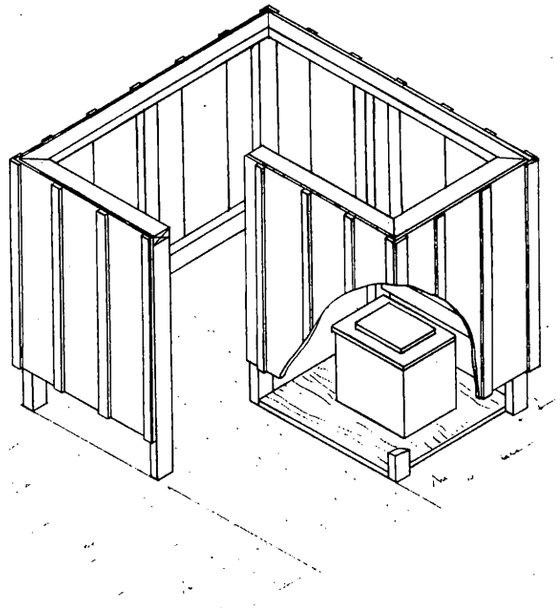
front elevation

Forest Service · USDA

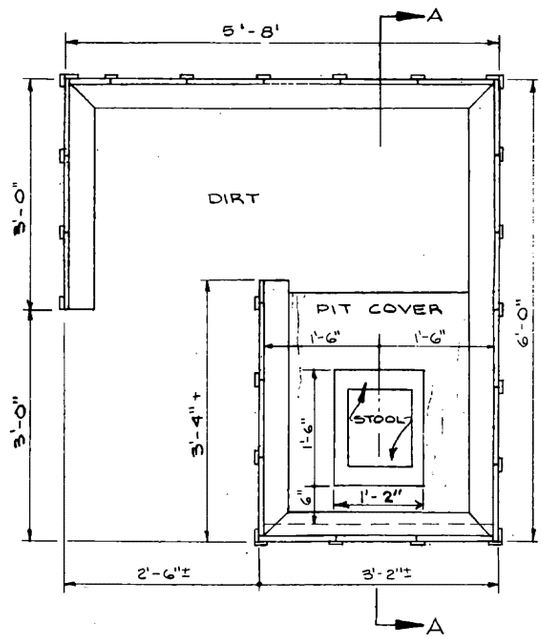
1 of 1

R-8
D-4008

■ Details Complete
□ Details Incomplete



ISOMETRIC

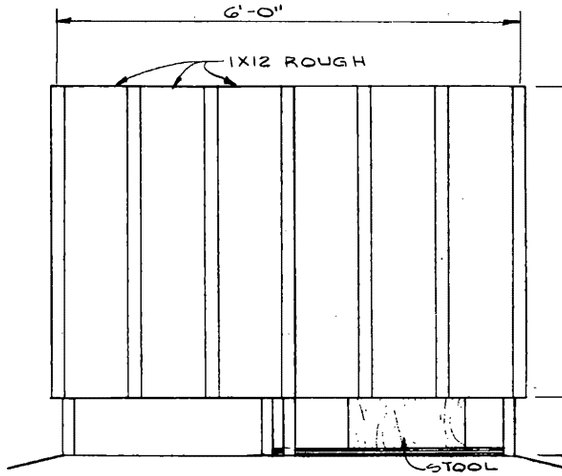


PLAN

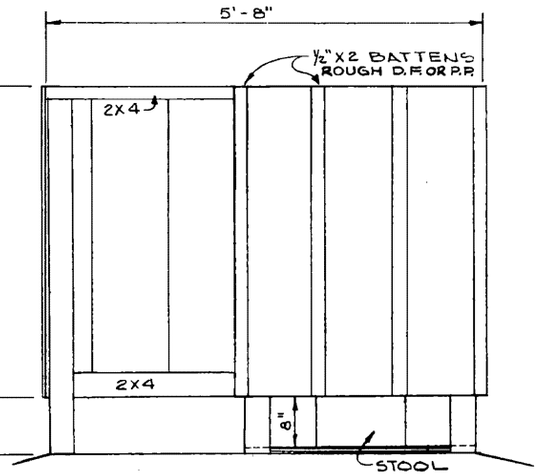
ALL WOOD IN CONTACT WITH EARTH AND/OR IN WASTE PIT SHALL BE COLD SOAK TREATED WITH COPPER NAPTHANATE OR PENTA

FINISH SCHEDULE:
HARDWARE & NAILS : GALVANIZED STEEL
STOOL SEAT & LID : EXTERIOR ENAMEL (AVACADO GREEN)

ALL EXPOSED WOOD & PLYWOOD (EXCEPT STOOL SEAT & LID): FPL STAIN



LEFT SIDE ELEVATION



FRONT ELEVATION

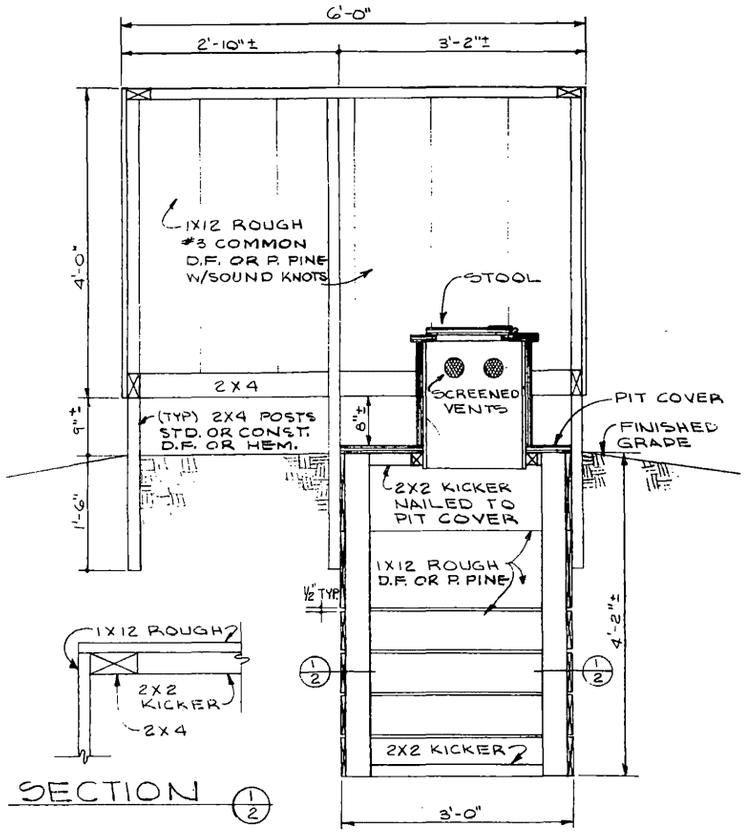
Single Unit Pit Toilet Wood Frame With Wood Exterior

1 of 2

R-3
PI.12-R3
■ Details Complete
□ Details Incomplete

Forest Service · USDA

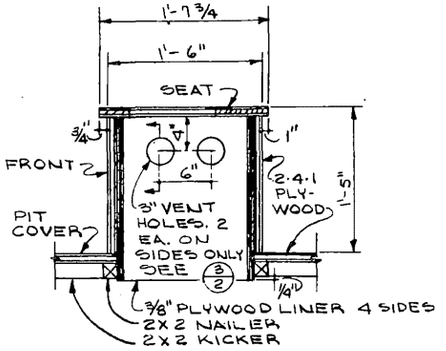
FOREST SERVICE · DEPARTMENT OF AGRICULTURE



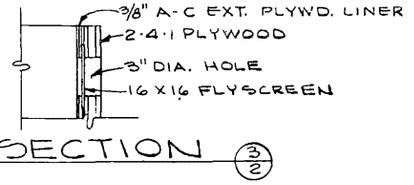
SECTION (1/2)

SECTION A-A

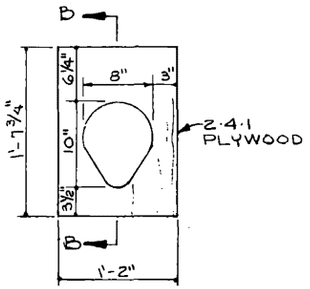
ALTERNATE STOOL: WAVERLY MODEL 300 W ORT PLASTIC, W/COVER



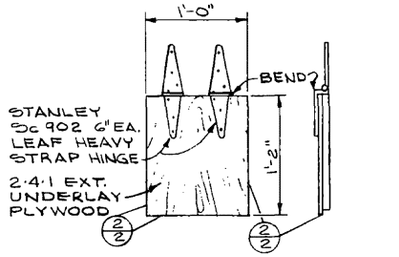
SECTION B-B



SECTION (1/3)

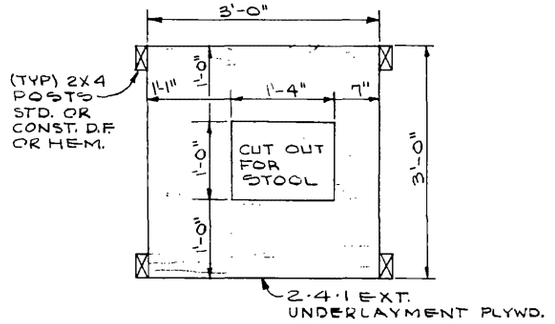


SEAT

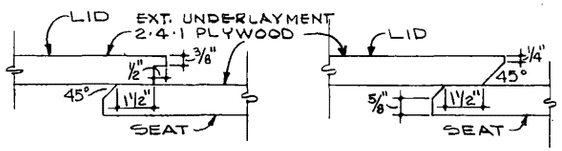


PLAN EDGE

LID



PIT COVER PLAN



LID LIFT OPTION (2/2)

Single Unit Pit Toilet Wood Frame With Wood Exterior

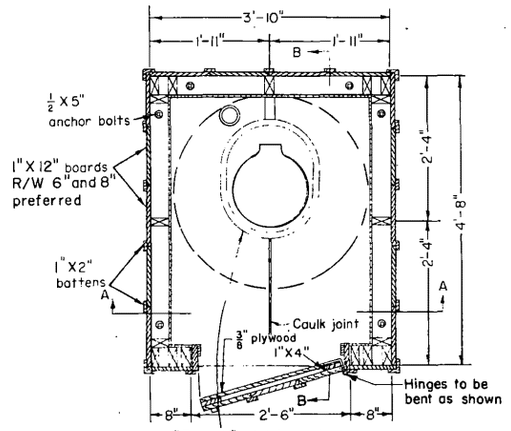
2 of 2

R-3
PI.12-R3
■ Details Complete
□ Details Incomplete

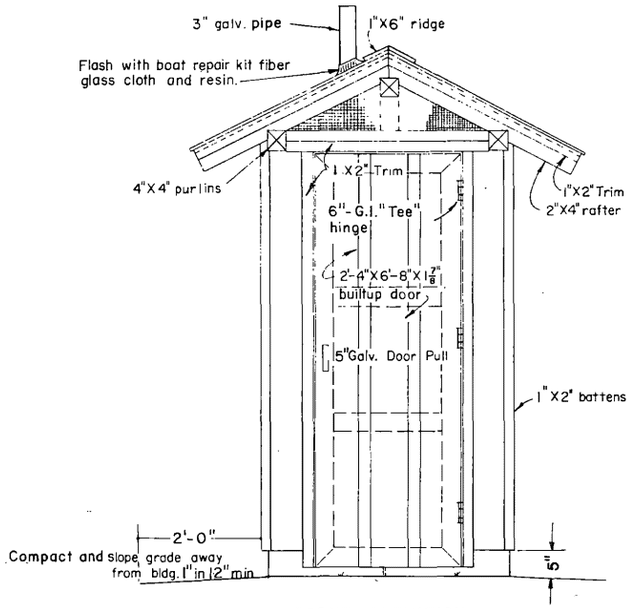
Forest Service · USDA

FOREST SERVICE · DEPARTMENT OF AGRICULTURE

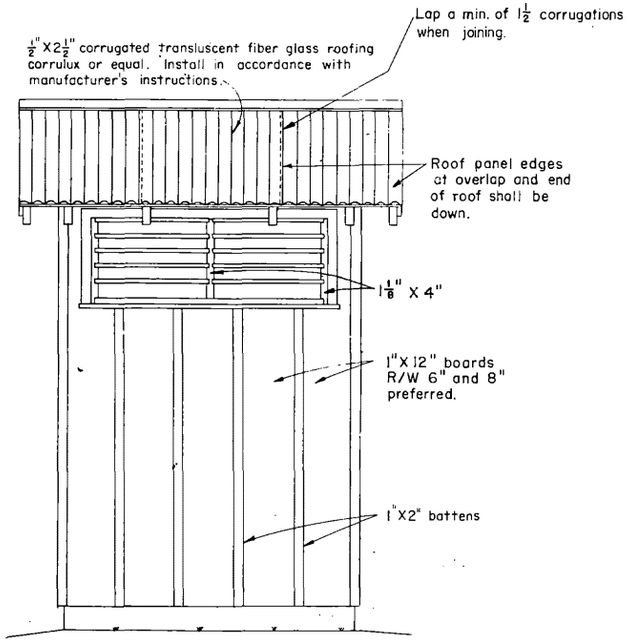
Single Unit Pit Toilet Wood Frame With Wood Exterior



PLAN


3" galv. pipe
1" X6" ridge
Flash with boat repair kit fiber glass cloth and resin.
4" X4" purlins
1" X2" Trim
6"-G.I. "Tee" hinge
2'-4" X 6'-8" X 1⅜" built up door
5" Galv. Door Pull
1" X2" Trim
2" X4" rafter
1" X2" battens
2'-0"
Compact and slope grade away from bldg. 1" in 12" min.
5"

FRONT ELEVATION


Lap a min. of 1½ corrugations when joining.
½" X2½" corrugated transluscent fiber glass roofing corrulux or equal. Install in accordance with manufacturer's instructions.
Roof panel edges at overlap and end of roof shall be down.
1⅛" X 4"
1" X 12" boards R/W 6" and 8" preferred.
1" X2" battens

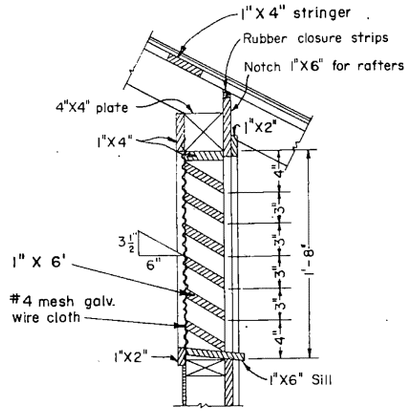
SIDE ELEVATION
(OPPOSITE SIDE SIMILAR)

Forest Service · USDA

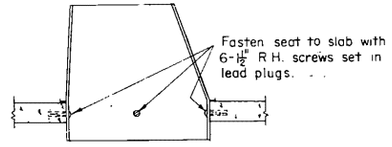
1 of 4

R-9
Plate 12A

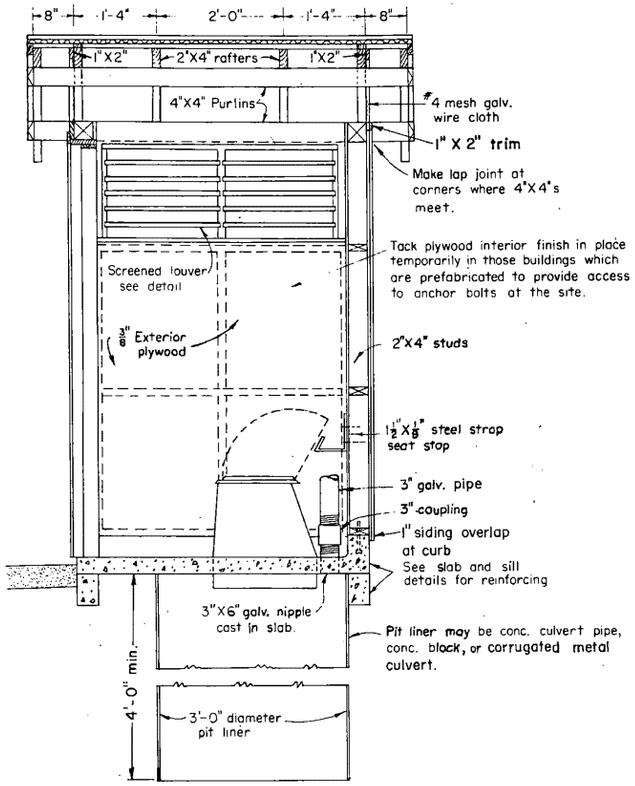
■ Details Complete
□ Details Incomplete



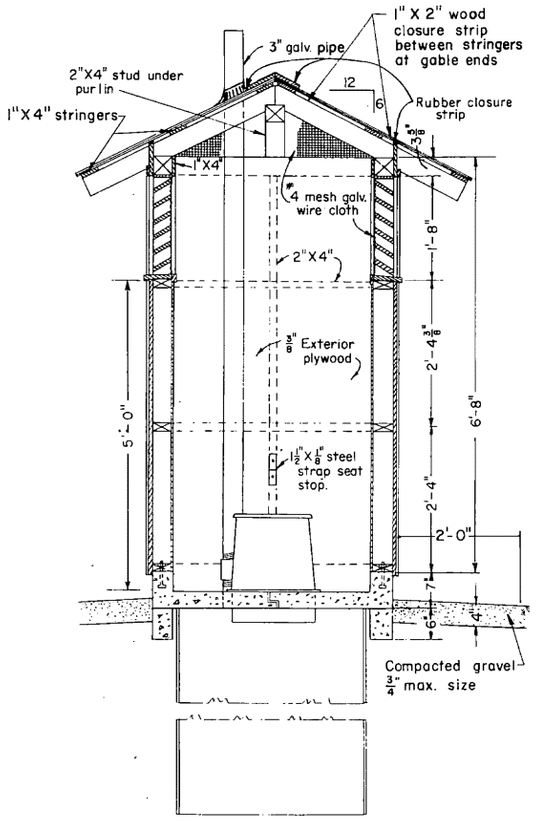
DETAIL OF LOUVER



METHOD OF ANCHORING STOOL


8"
1'-4"
2'-0"
1'-4"
8"
1"X2"
2"X4" rafters
1"X2"
4"X4" Purlins
#4 mesh galv. wire cloth
1" X 2" trim
Make lap joint at corners where 4"X4"s meet.
Tack plywood interior finish in place temporarily in those buildings which are prefabricated to provide access to anchor bolts at the site.
Screened louver see detail
⅜" Exterior plywood
2"X4" studs
1½"X⅛" steel strap seat stop
3" galv. pipe
3" coupling
1" siding overlap at curb
See slab and sill details for reinforcing
3"X6" galv. nipple cast in slab
Pit liner may be conc. culvert pipe, conc. block, or corrugated metal culvert.
4'-0" min.
3'-0" diameter pit liner

SECTION B-B



SECTION A-A

0 3" 6" 9" 1' 2' 3'

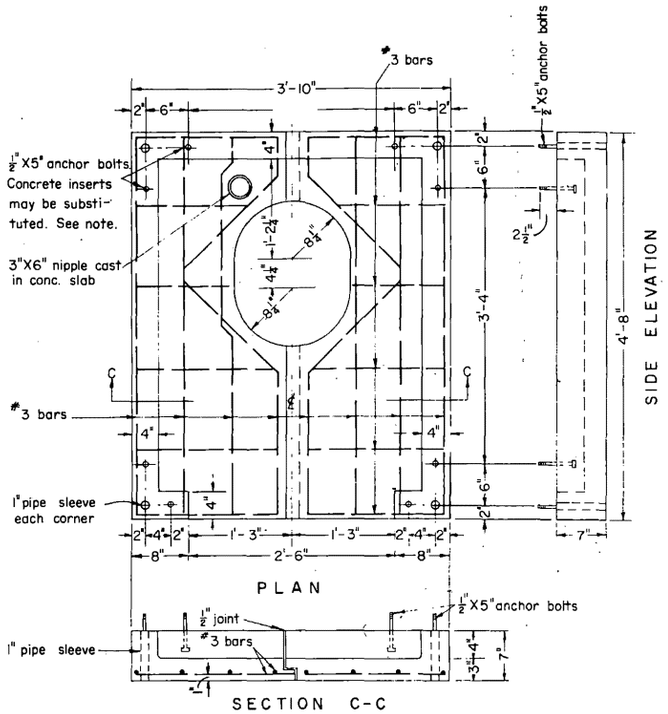
Scale

Single Unit Pit Toilet Wood Frame With Wood Exterior

2 of 4

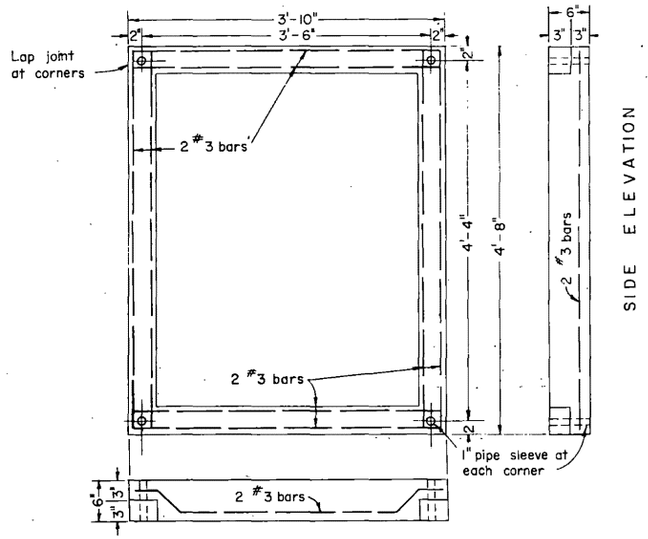
R-9
Plate 12A
■ Details Complete
□ Details Incomplete

Forest Service · USDA

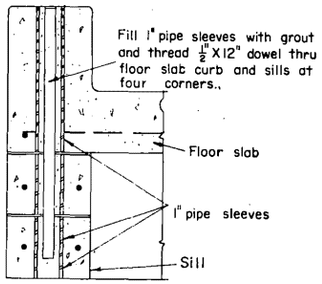


PRECAST CONCRETE FLOOR SLAB

Optional to pour slab in one piece



PRECAST CONCRETE SILLS


Fill 1" pipe sleeves with grout and thread ½"X12" dowel thru floor slab curb and sills at four corners.
Floor slab
1" pipe sleeves
Sill

JOINING DETAIL OF FLOOR SLAB AND SILL

Note:

Check dimensions of toilet stool hole in slab against the dimensions of the toilet stool to be used. The products of different manufacturers may differ slightly in dimension.

Concrete inserts such as "Cleveland" loop inserts may be cast in the curb of the floor slab to recieve the ½" anchor bolts. The bolts may then be installed on the job. This method may be used where the protruding bolts are objectional for hauling or stacking. If inserts are used the anchor bolts should be ½"X2½"

Single Unit Pit Toilet
Wood Frame With Wood Exterior

3 of 4

R-9
Plate 12A
■ Details Complete
□ Details Incomplete

Forest Service · USDA

Specifications:

Cement – A.A.S.H.O. Type I, IA or II, IIA
Reinforcing Steel – A.S.T.M., A-305-53T
Concrete shall be AASHO, Class A or Class A (AE-air entrained) consisting of the following approximate mix per cubic yard:

6 sacks of portland cement
1250 lbs. sand - for A(AE air entrained use 1150 lbs.)
1850 lbs. course aggregate (maximum size ¾ inch) use stiff mix of approximately 5 gals. of water per sack of cement.

Lumber: Framing shall be #1 dimension eastern hemlock, eastern spruce, red pine, southern pine or Douglas fir.
Siding and finish shall be "D" finish: northern white pine, Idaho white pine, ponderosa pine, western red cedar, or redwood.

Nails: For siding, trim and other exposed nailing shall be aluminum or galvanized.

Exterior Finish: Building shall be stained with Forest Products Laboratory stain, as set forth in pamphlet #2096. Color shall conform to brown shingle stain chip No. 4, shown on the R-9 color chart.

Interior Painting shall consist of the following:
1 coat of enamel undercoat, Pittsburgh Plate Glass Co., waterspar enamel undercoater or equal.
1 coat of ½ enamel undercoat and ½ white enamel.
1 coat of white enamel, Pittsburgh Plate Glass Co., waterspar enamel or equal.

Roofing corrugated fiber glass, shall be installed in accordance with the manufacturer's recommendations including closure strips, nails, bolts and sealer.

Doors: Shall be built up with 1" X R/W boards for exterior face and ⅜" exterior DFPA plywood for interior face. The two surfaces to be fastened to a 1" X 4" core.

Floor: The top of the concrete floor slab shall be treated with a concrete sealer "Lapidolith" produced by L. Sonneborn Sons, Inc., 404 Fourth Avenue, New York 16, New York, or equal.

MATERIAL LIST

NO.	SIZE	FINISH	NAME AND USE
3	4"X4"X 7'-0"	S4S	Purlins and plates
2	4"X4"X 4'-0"	S4S	Plates
1	2"X4"X 16'-0"	S4S	Sole
15	2"X4"X 6'-4"	S4S	Studs
2	2"X4"X 4'-6"	S4S	Studs under louvers
2	2"X4"X 12'-0"	S4S	Blocking between studs
3	2"X4"X 14'-0"	S4S	Rafters
6	1"X4"X 6'-0"	S4S	Roof stringers
8	1"X12"X 7'-0"	S4S	Siding
6	1"X12"X 5'-0"	S4S	Siding
2	1"X8"X 7'-0"	S4S	Siding
16	1"X2"X 7'-0"	S4S	Battens and door
8	1"X2"X 5'-0"	S4S	Battens
2	1"X4"X 4'-0"	S4S	Interior louver trim
1	1"X2"X 8'-0"	S4S	Interior louver trim
1	1"X6"X 10'-0"	S4S	Exterior trim under eaves
2	1"X2"X 8'-0"	S4S	Exterior trim gable ends
1	1"X2"X 10-0"	S4S	Wire cloth moulding
1	1"X2"X 16'-0"	S4S	Door stop
1	1⅛"X4"X 10'-0"	S4S	Louver frame
1	1"X4"X 8'-0"	S4S	Louver frame
1	1"X6"X 8'-0"	S4S	Louver sill
3	1"X6"X 16'-0"	S4S	Louver slats
1	⅜"X48"X6'-8"	A-C DFPA	Plywood, Douglas fir, exterior grade
2	⅜"X48"X4'-8"	A-C DFPA	Plywood, Douglas fir, exterior grade
6	27½"X42	Granitized	Roofing, fiber glass, translucent, 2½"X1" corrugations, structural grade including closure strips, nails, bolts, washers and sealer. Colors: Forest Green or Skylight Green
	22 lin. ft.	Rubber	Corrulux closure strip #10021 or equal
3	6"	Galv.	Tee hinges
1	—	Galv.	Door pull with 5" grip

NO.	SIZE	FINISH	NAME AND USE
1	—	Galv.	Reliance door spring 8" length or equal
1	—	Chrome	Toilet paper holder, surface mounted
1	1'-8"X 15'-0"	Galv.	No. 4 mesh wire cloth
1	3"X6"	Galv.	Nipple Standard steel pipe
1	3"	Galv.	Pipe coupling " " "
1	3"X8'-6" long	Galv.	Pipe " " "
6	1½" No. 8 R H	Brass	Wood screws - toilet seat to slab
6	—	—	Lead or rawl plugs for 1½" No. 8 screws
1		S.S.	Toilet stool, "Forest" stainless steel riser plastic seat as mfg'd. by R.E.H. CO. or equal.
8	½"X5"	—	Anchor bolts
4	1"X7"	Galv.	Pipe sleeves - floor slab
8	1"X3"	Galv.	Pipe sleeves - sills
8	No. 3 - 1'-10"	Deformed	Reinforcing bars, slab, straight
2	No. 3 - 1'-3"	Deformed	Reinforcing bars, slab, straight
2	No. 3 - 1'-1"	Deformed	Reinforcing bars, slab, straight
5	No. 3 - 4'-6"	Deformed	Reinforcing bars, slab, straight
1	No. 3 - 4'-7"	Deformed	Reinforcing bars, slab, bent
2	No. 3 - 3'-5"	Deformed	Reinforcing bars, slab, bent
2	No. 3 - 2'-2"	Deformed	Reinforcing bars, slab, bent
2	No. 3 - 3'-10"	Deformed	Reinforcing bars, sills bent
4	No. 3 - 4'-6"	Deformed	Reinforcing bars, sills straight
4	½"X12" #4	—	Dowels - Thru slab and sills
15 cu. ft. Concrete		Trowel	Slab and sills, 3,000 p.s.i. @ 28 days
1			Pit liner (See options, sheet 2 of 4)
1	1"X 5"X 16'	S4S	Door frame
2	1"X6"X 6'-0"	S4S	Ridge
1		Wire	Coat hook
3	1"X10"X 6'-8"	S4S	Door exterior face
1	⅜"X2'-4"X6'-8"	DFPA	Plywood Douglas fir, ext. A-C for door
2	1"X 4"X 12'-0"	S4S	Door core

Single Unit Pit Toilet
Wood Frame With Wood Exterior

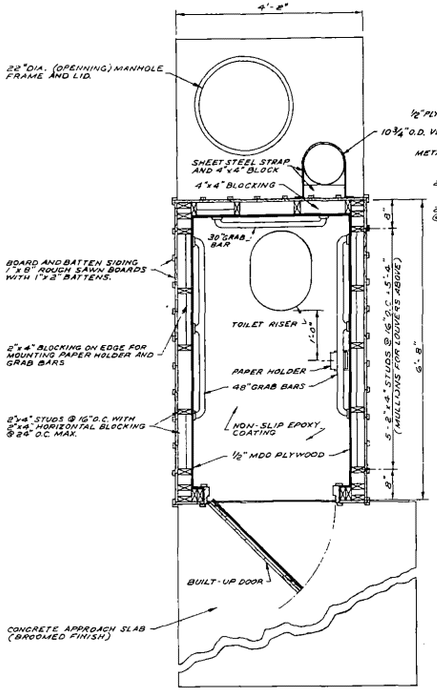
4 of 4

R-9
Plate 12A
■ Details Complete
□ Details Incomplete

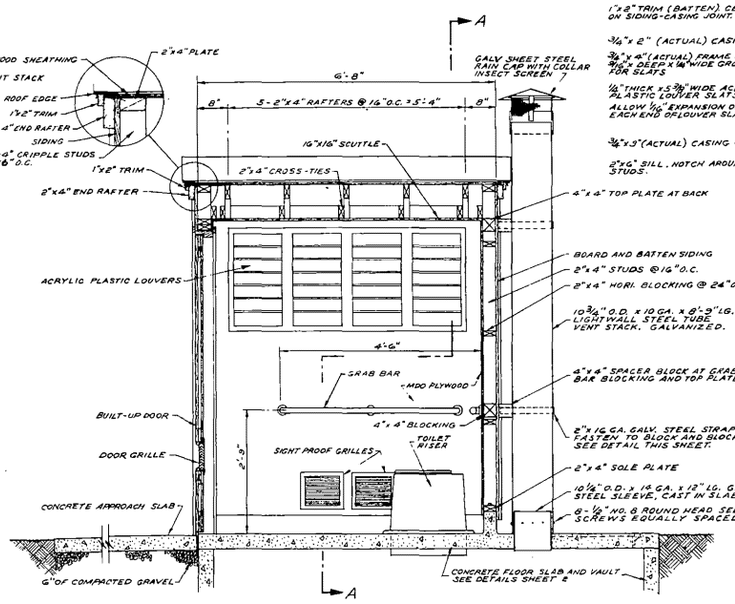
Forest Service · USDA

FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE

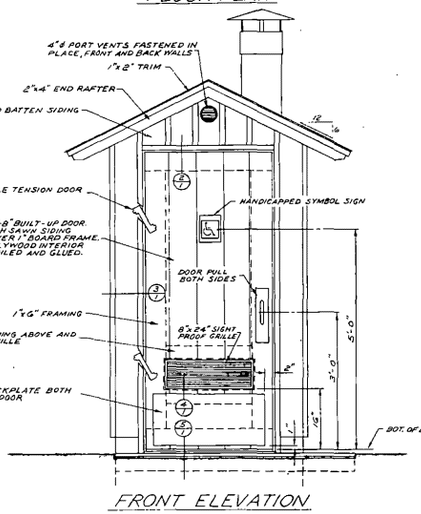
Single Unit Vault Toilet Wood Frame With Wood Exterior


4'-8"
22"DIA. (OPENNING) MANHOLE FRAME AND LID.
SHEET STEEL STRAP AND 4"x4" BLOCK
4"x4" BLOCKING
30"GRAB BAR
BOARD AND BATTEN SIDING, 1"x8" ROUGH SAWN BOARDS WITH 1"x2" BATTENS.
2"x4" BLOCKING ON EDGE FOR MOUNTING PAPER HOLDER AND GRAB BARS
TOILET RISER
PAPER HOLDER
48" GRAB BARS
2"x4" STUDS @ 16" O.C. WITH 2"x4" HORIZONTAL BLOCKING @ 24" O.C. MAX.
NON-SLIP EPOXY COATING
1/2" MDO PLYWOOD
BUILT-UP DOOR
CONCRETE APPROACH SLAB (BROOMED FINISH)
5'-2"x4" STUDS @ 16" O.C. (MULLIONS FOR LOUVERS ABOVE)
6'-8"
8"

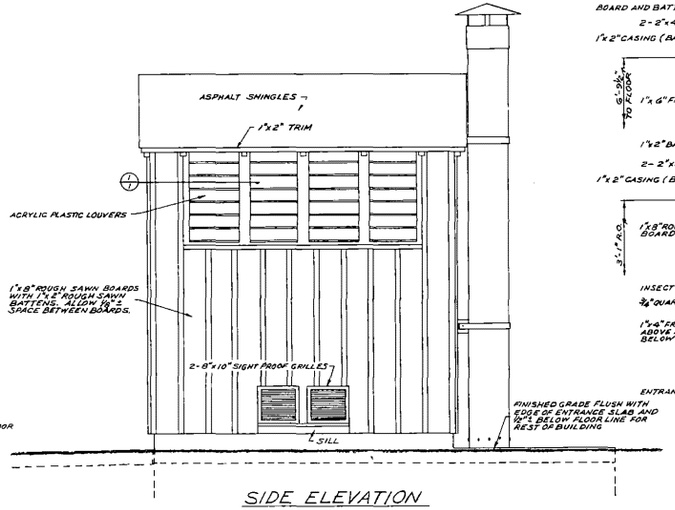
FLOOR PLAN


1/2" PLYWOOD SHEATHING
2"x4" PLATE
METAL ROOF EDGE
1"x2" TRIM
2"x4" END RAFTER
SIDING
2"x6" CRIPPLE STUDS @ 16" O.C.
10 3/4" O.D. VENT STACK
1"x2" TRIM
2"x4" END RAFTER
ACRYLIC PLASTIC LOUVERS
BUILT-UP DOOR
DOOR GRILLE
CONCRETE APPROACH SLAB
6" OF COMPACTED GRAVEL
A
6'-8"
8"
5-2"x4" RAFTERS @ 16" O.C. 5'-4"
8"
16"x16" SCUTTLE
2"x4" CROSS-TIES
4"x4" TOP PLATE AT BACK
BOARD AND BATTEN SIDING
2"x4" STUDS @ 16" O.C.
2"x4" HORI. BLOCKING @ 24" O.C.
10 3/4" O.D. x 10 GA. x 8'-3" LG. LIGHTWALL STEEL TUBE VENT STACK, GALVANIZED.
4'-6"
GRAB BAR
MDO PLYWOOD
4"x4" BLOCKING
TOILET RISER
SIGHT PROOF GRILLES
2'-8"
4"x4" SPACER BLOCK AT GRAB BAR BLOCKING AND TOP PLATE
2"x16 GA. GALV. STEEL STRAP FASTEN TO BLOCK AND BLOCKING SEE DETAIL THIS SHEET.
2"x4" SOLE PLATE
10 1/4" O.D. x 14 GA. x 12" LG. GALV. STEEL SLEEVE, CAST IN SLAB.
6 - 1/2" NO. 8 ROUND HEAD SELF-TAPPING SCREWS EQUALLY SPACED.
CONCRETE FLOOR SLAB AND VAULT SEE DETAILS SHEET 2
6"
A

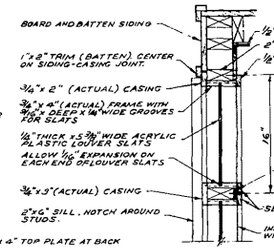
LONGITUDINAL BUILDING SECTION


4"ø PORT VENTS FASTENED IN PLACE, FRONT AND BACK WALLS
1"x2" TRIM
2"x4" END RAFTER
BOARD AND BATTEN SIDING
ADJUSTABLE TENSION DOOR SPRINGS
2'-10 1/2" x 6'-8" BUILT-UP DOOR 1"x8" ROUGH SAWN SIDING BOARDS OVER 1" BOARD FRAME. 1/2" MDO PLYWOOD INTERIOR FINISH, NAILED AND GLUED.
HANDICAPPED SYMBOL SIGN
DOOR PULL BOTH SIDES
1"x6" FRAMING
1"x8" FRAMING ABOVE AND BELOW GRILLE
8"x24" SIGHT PROOF GRILLE
18"x30" KICKPLATE BOTH SIDES OF DOOR
5'-0"
3'-0"
BOT. OF DOOR

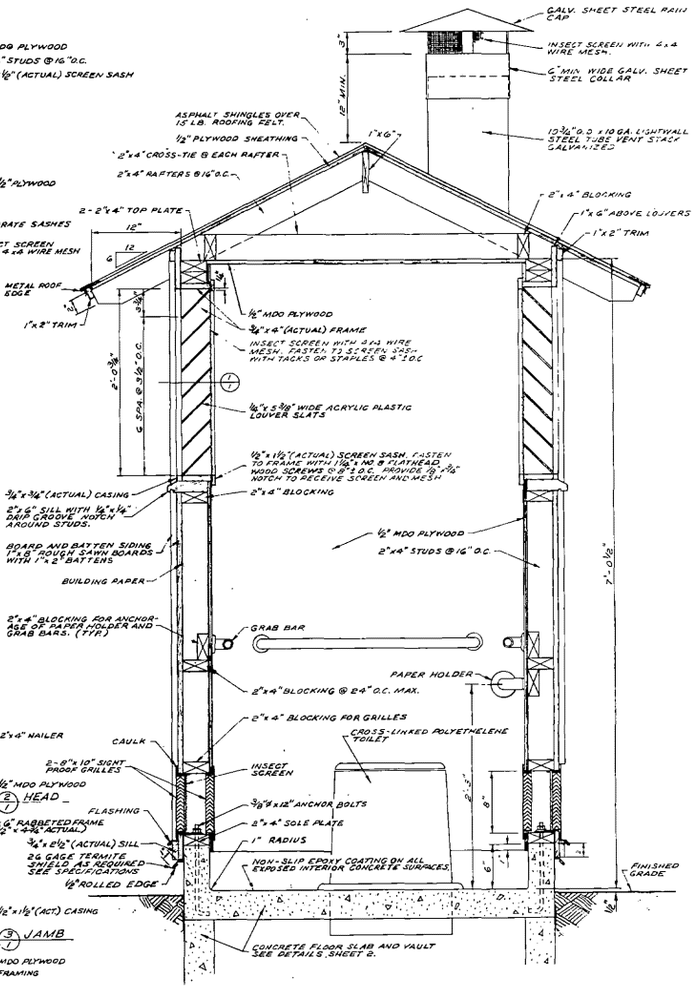
FRONT ELEVATION


ASPHALT SHINGLES
1"x2" TRIM
ACRYLIC PLASTIC LOUVERS
1"x8" ROUGH SAWN BOARDS WITH 1"x2" ROUGH SAWN BATTENS. ALLOW 1/2" SPACE BETWEEN BOARDS.
2-8"x10" SIGHT PROOF GRILLES
SILL
FINISHED GRADE FLUSH WITH EDGE OF ENTRANCE SLAB AND 1/2" BELOW FLOOR LINE FOR REST OF BUILDING

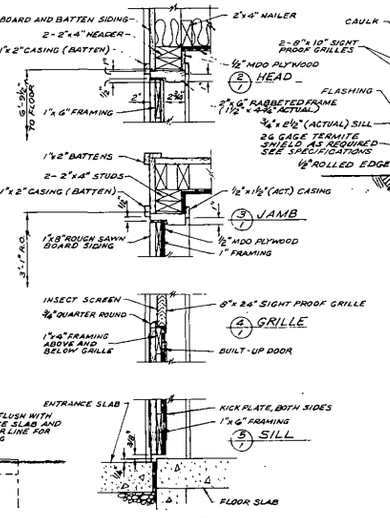
SIDE ELEVATION


BOARD AND BATTEN SIDING
1"x2" TRIM (BATTEN) CENTER ON SIDING-CASING JOINT.
3/4" x 2" (ACTUAL) CASING
3/4" x 4" (ACTUAL) FRAME WITH 3/8" x DEEP x 1/4" WIDE GROOVES FOR SLATS
1/4" THICK x 5 3/8" WIDE ACRYLIC PLASTIC LOUVER SLATS
ALLOW 1/16" EXPANSION ON EACH END OF LOUVER SLATS
3/4" x 3" (ACTUAL) CASING
2"x6" SILL, NOTCH AROUND STUDS.
1/2" MDO PLYWOOD
2"x4" STUDS @ 16" O.C.
1/8" x 1 1/2" (ACTUAL) SCREEN SASH
16"
1/2" PLYWOOD
SEPARATE SASHES
INSECT SCREEN WITH 4 x 4 WIRE MESH

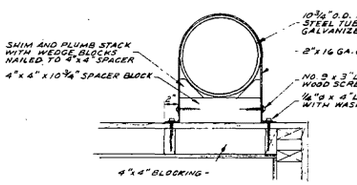
1 LOUVER
SCALE: 1 1/2" = 1'-0"


GALV. SHEET STEEL RAIN CAP
INSECT SCREEN WITH 4 x 4 WIRE MESH
6" MIN. WIDE GALV. SHEET STEEL COLLAR
3" MIN.
10 3/4" O.D. x 10 GA. LIGHTWALL STEEL TUBE VENT STACK GALVANIZED
ASPHALT SHINGLES OVER 15 LB. ROOFING FELT.
1/2" PLYWOOD SHEATHING
2"x4" CROSS-TIE @ EACH RAFTER
2"x4" RAFTERS @ 16" O.C.
1"x6"
2"x4" BLOCKING
1"x6" ABOVE LOUVERS
1"x2" TRIM
2-2"x4" TOP PLATE
12"
12
6
METAL ROOF EDGE
1"x2" TRIM
1/2" MDO PLYWOOD
3/4"x4" (ACTUAL) FRAME
INSECT SCREEN WITH 4x4 WIRE MESH, FASTEN TO SCREEN SASH WITH TACKS OR STAPLES @ 4" O.C.
2'-0 3/4"
6 SPA. @ 3 1/2" O.C.
1/4" x 2 3/8" WIDE ACRYLIC PLASTIC LOUVER SLATS
1/2" x 1 1/2" (ACTUAL) SCREEN SASH, FASTEN TO FRAME WITH 1 1/4" x NO. 8 FLATHEAD WOOD SCREWS @ 8" O.C. PROVIDE 1/2" x 3/8" NOTCH TO RECEIVE SCREEN AND MESH
3/4" x 3 1/4" (ACTUAL) CASING
2"x6" SILL WITH 1/2" x 1/4" SKIP GROOVE NOTCH AROUND STUDS.
2"x4" BLOCKING
1/2" MDO PLYWOOD
2"x4" STUDS @ 16" O.C.
BOARD AND BATTEN SIDING 1"x8" ROUGH SAWN BOARDS WITH 1"x2" BATTENS
BUILDING PAPER
2"x4" BLOCKING FOR ANCHORAGE OF PAPER HOLDER AND GRAB BARS. (TYP.)
GRAB BAR
PAPER HOLDER
2"x4" BLOCKING @ 24" O.C. MAX.
2"x4" BLOCKING FOR GRILLES
CAULK
CROSS-LINKED POLYETHELENE TOILET
INSECT SCREEN
2-8"x10" SIGHT PROOF GRILLES
3/8"ø x 12" ANCHOR BOLTS
2"x4" SOLE PLATE
1" RADIUS
NON-SLIP EPOXY COATING ON ALL EXPOSED INTERIOR CONCRETE SURFACES
1/2" ROLLED EDGE
CONCRETE FLOOR SLAB AND VAULT SEE DETAILS SHEET 2.
FINISHED GRADE
2'-0 1/2"
8"
6"

BUILDING SECTION A-A
SCALE: 1 1/2" = 1'-0"



DOOR DETAILS
SCALE: 1 1/2" = 1'-0"


SHIM AND PLUMB STACK WITH WEDGE BLOCKS NAILED TO 4"x4" SPACER
4"x4"x10 3/4" SPACER BLOCK
10 3/4" O.D. x 10 GA. LIGHTWALL STEEL TUBE VENT STACK, GALVANIZED
2"x16 GA. GALV. STEEL STRAP.
NO. 9 x 3" LG. ROUNDHEAD WOOD SCREW WITH WASHER.
1/2"ø x 4" LG. LAG SCREW WITH WASHER.
4"x4" BLOCKING

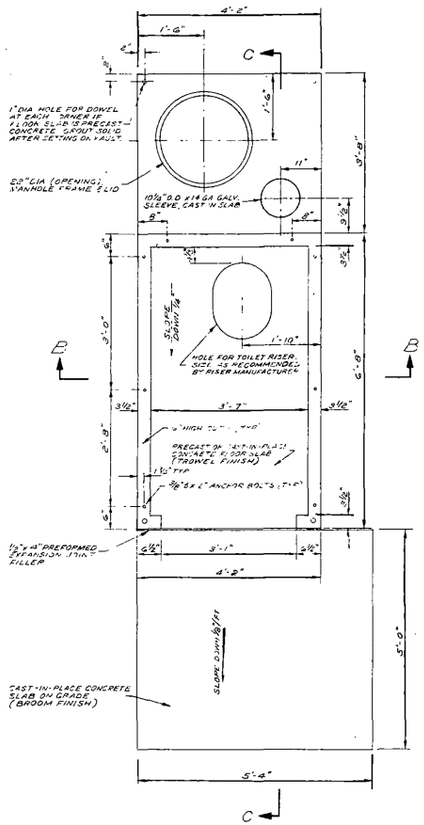
VENT STACK STRAP DETAIL
SCALE: 1 1/2" = 1'-0"

Forest Service · USDA

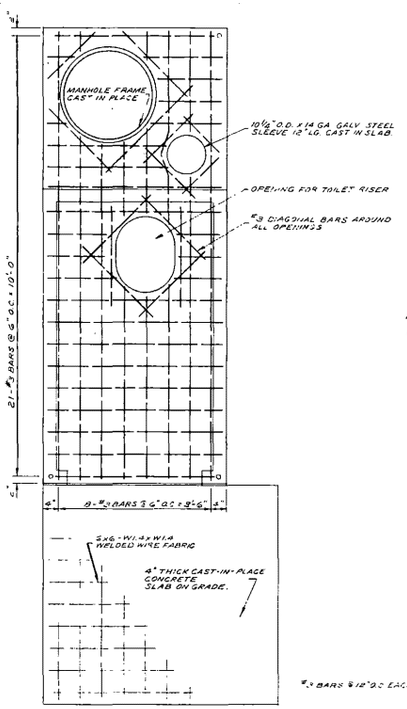
1 of 2

R-9
U-214-01
■ Details Complete
□ Details Incomplete

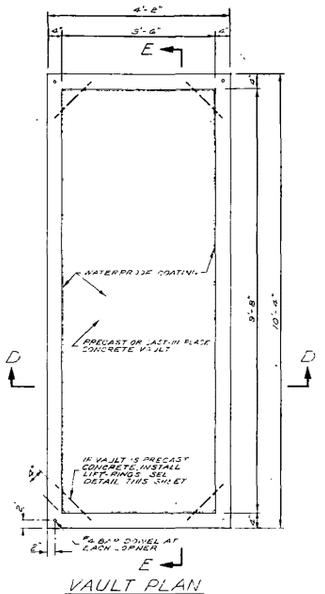
Single Unit Vault Toilet Wood Frame With Wood Exterior



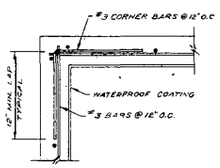
FLOOR SLAB PLAN


MANHOLE FRAME CAST-IN PLACE
10⅛"O.D. X 14 GA. GALV. STEEL SLEEVE 12" LG. CAST IN SLAB
OPENING FOR TOILET RISER
#3 DIAGONAL BARS AROUND ALL OPENINGS
21-#3 BARS @ 6" O.C. = 10'-0"
8-#3 BARS @ 6" O.C. = 3'-6"
4"
4"
6x6 - W1.4 x W1.4 WELDED WIRE FABRIC
4" THICK CAST-IN-PLACE CONCRETE SLAB ON GRADE.

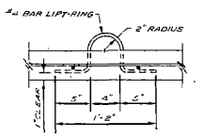
REINFORCING PLAN



VAULT PLAN



1/2 TYPICAL CORNER
SCALE: 1½"=1'-0"



LIFT-RING DETAIL
SCALE: 1½"=1'-0"

NOTES

INSTALL LIFT-RINGS AS SHOWN IF VAULT IS CONSTRUCTED OF PRECAST CONCRETE.

INSTALL WATERSTOPS AS SHOWN IF VAULT IS CONSTRUCTED OF CAST-IN-PLACE CONCRETE.

PROVIDE A MINIMUM OF 6" OF COMPACTED SAND OR GRAVEL FILL UNDER VAULT.

SLOPE VAULT FLOOR TO REAR AS SHOWN (SEE E-E) USING ADDITIONAL CONCRETE. CONCRETE FOR SLOPE SHALL BE ADDED AFTER VAULT IS IN PLACE.

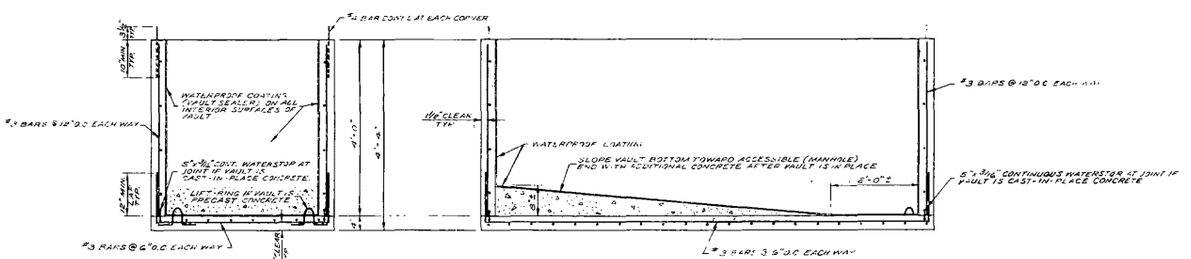
AFTER VAULT AND FLOOR SLAB ARE IN PLACE, APPLY THOROSEAL AND ACRYL-60 VAULT SEALER TO ALL INTERIOR SURFACES OF VAULT.

APPLY NON-SLIP EPOXY COATING TO ALL EXPOSED INTERIOR CONCRETE SURFACES (SLAB) BROOM FINISH APPROACH SLAB.

MAINTAIN MIN. 1½" CONCRETE COVER BETWEEN REINFORCING AND FACE OF CONCRETE. MIN. 1" CONCRETE COVER ALLOWABLE AT OPENINGS AND ENDS OF BARS.

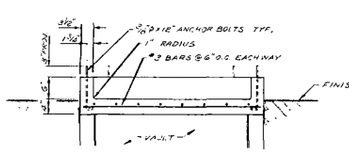
VERIFY SIZE OF OPENING FOR TOILET RISER WITH THE MANUFACTURER.

THIS BUILDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH "CONTRACT SPECIFICATIONS FOR STANDARD REGION NINE SINGLE UNIT AND TWO-UNIT VAULT TOILET BUILDINGS - 1991."

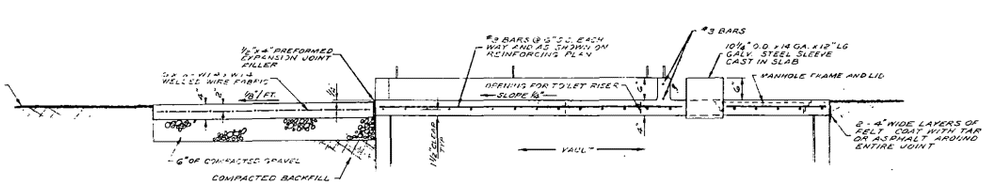

#4 BAR CONT. AT EACH CORNER
6"MIN. TYP.
WATERPROOF COATING (VAULT SEALER) ON ALL INTERIOR SURFACES OF VAULT
#3 BARS @ 12" O.C EACH WAY
4'-10"
4'-4"
1½" CLEAR TYP.
5"x⅜" CONT. WATERSTOP AT JOINT IF VAULT IS CAST-IN-PLACE CONCRETE.
LIFT-RING IF VAULT IS PRECAST CONCRETE
#3 BARS @ 6" O.C EACH WAY
#3 BARS @ 12" O.C EACH WAY
WATERPROOF COATING
SLOPE VAULT BOTTOM TOWARD ACCESSIBLE (MANHOLE) END WITH NOMINAL CONCRETE AFTER VAULT IS IN PLACE
6'-0"±
5"x⅜" CONTINUOUS WATERSTOP AT JOINT IF VAULT IS CAST-IN-PLACE CONCRETE
L #3 BARS 3'-6" O.C EACH WAY

SECTION D-D

SECTION E-E



SECTION B-B

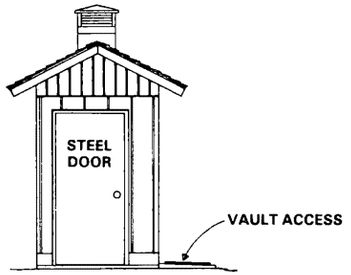

½"x 4" PREFORMED EXPANSION JOINT FILLER
6x6 - W1.4 x W1.4 WELDED WIRE FABRIC
1/8"/FT.
#3 BARS @ 6" O.C. EACH WAY AND AS SHOWN ON REINFORCING PLAN
OPENING FOR TOILET RISER
SLOPE 6"
#3 BARS
10⅛"O.D. x 14 GA x 12" LG GALV. STEEL SLEEVE CAST IN SLAB
MANHOLE FRAME AND LID
2 - 4" WIDE LAYERS OF FELT COAT WITH TAR OR ASPHALT AROUND ENTIRE JOINT
6" OF COMPACTED GRAVEL
COMPACTED BACKFILL
VAULT

SECTION C-C

2 of 2

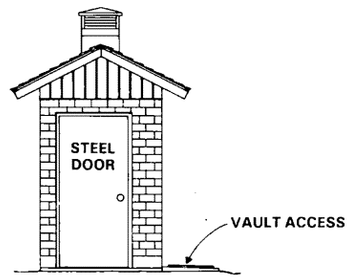
R-9
U-214-02
■ Details Complete
□ Details Incomplete

Forest Service · USDA

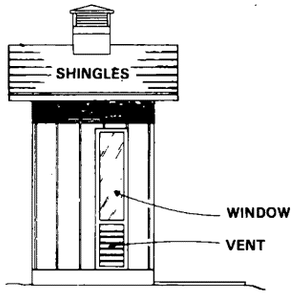


END ELEVATION

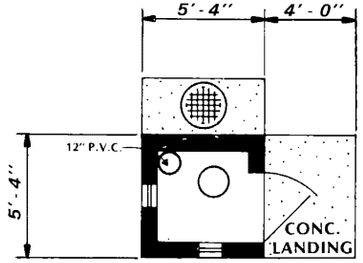
NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGID VINYL.



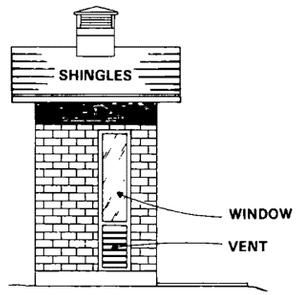
END ELEVATION



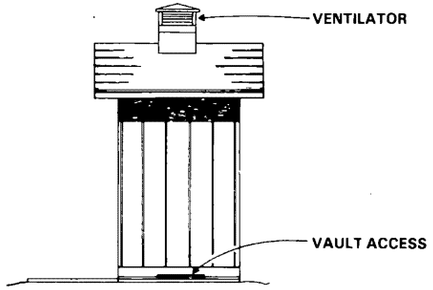
FRONT ELEVATION



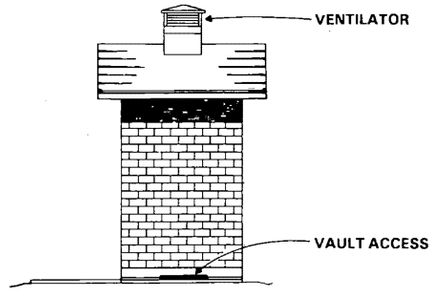
PLAN • "1"



FRONT ELEVATION



REAR ELEVATION



REAR ELEVATION

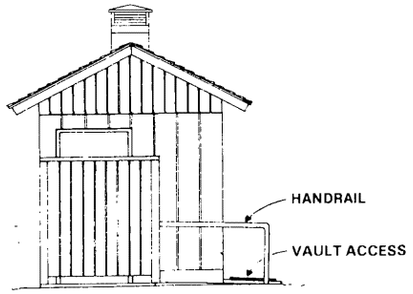
Single Unit Vault Toilet
Wood Exterior & Block Exterior Designs

1 of 1

R-4

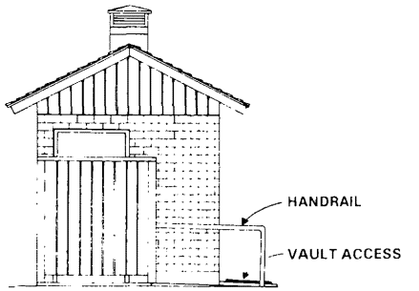
☐ Details Complete
■ Details Incomplete

Forest Service · USDA

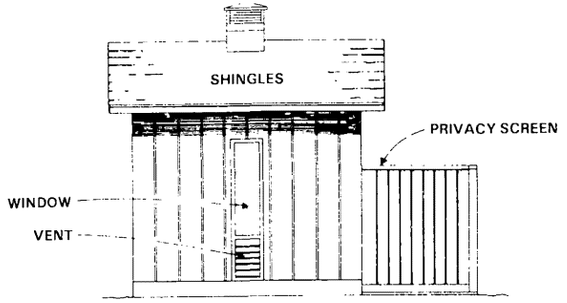


END ELEVATION

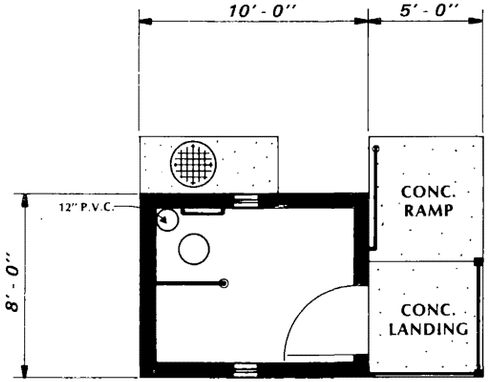
NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGIDVINYL.



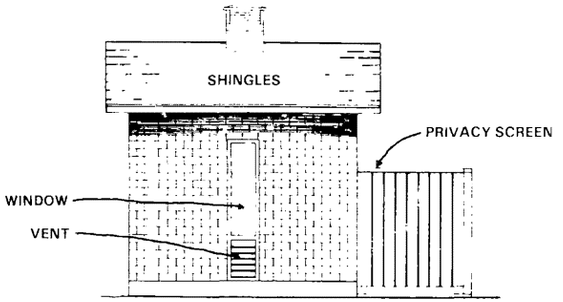
END ELEVATION



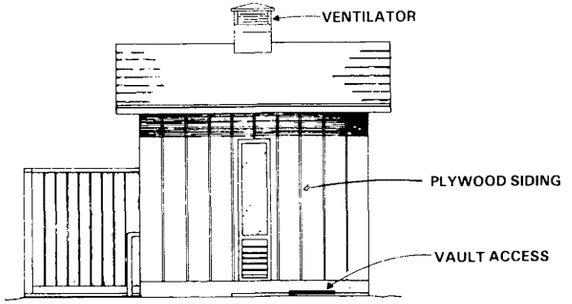
FRONT ELEVATION



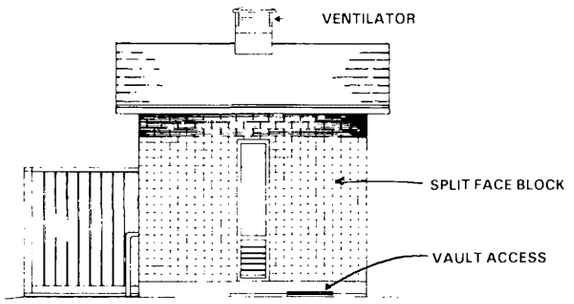
PLAN • "2"



FRONT ELEVATION



REAR ELEVATION



REAR ELEVATION

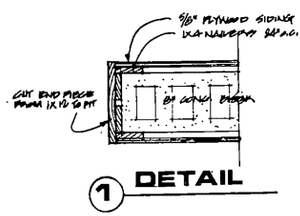
Single Unit Vault Toilet Wood Exterior & Bloc_ _xt_rior D_ ign

1 of 1

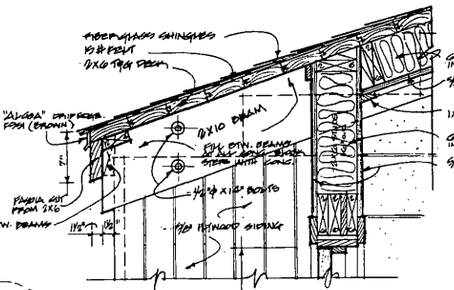
R-4

☐ Details Complete
Details Incomplete

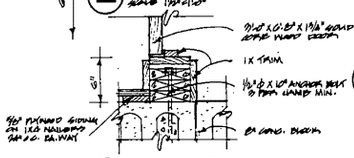
Forest Service · USDA



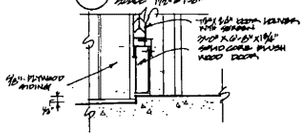
1 DETAIL



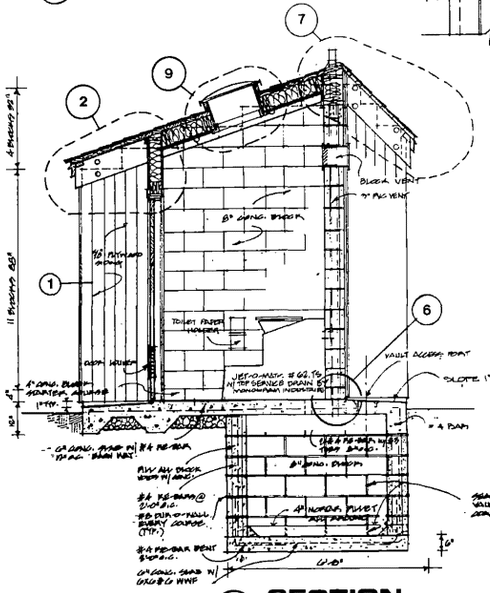
2 HEAD



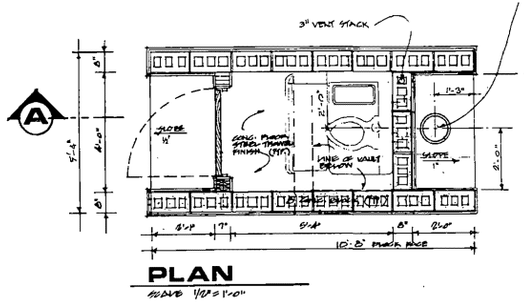
3 JAMB



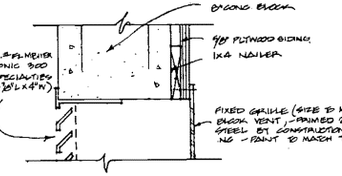
4 SILL



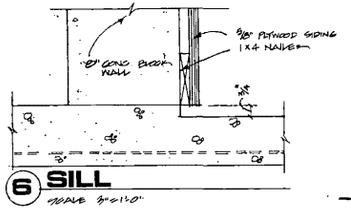
A SECTION



PLAN


8" CONC. BLOCK
5/8" PLYWOOD SIDING
1X4 NAILER
FIXED GRILLE (SIZE TO MATCH BLOCK VENT) - PRIMED 20GA. STEEL BY CONSTRUCTION SPECS. NG - PAINT TO MATCH TRIM.

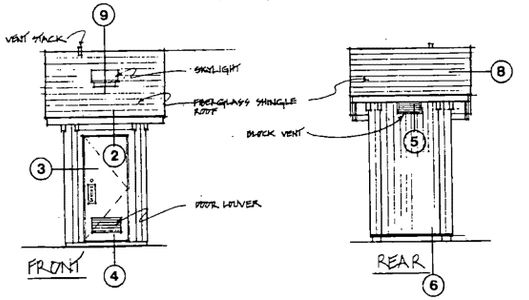
5 VENT

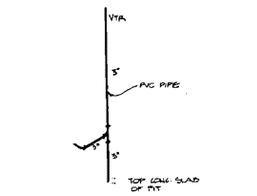


6 SILL

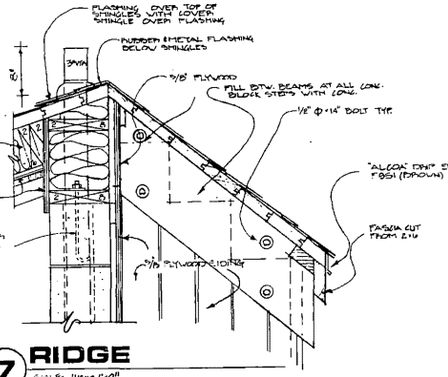
SIDE (TYP.)

ELEVATIONS

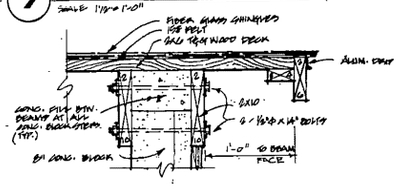




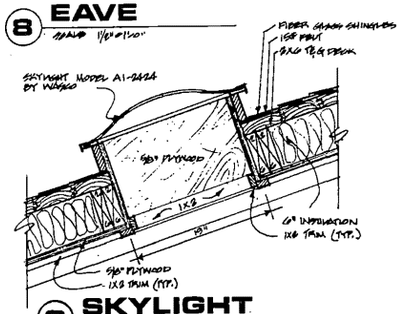
VENT STACK


FLASHING OVER TOP OF SHINGLES WITH COVER SHINGLE OVER FLASHING
NUMBER 8 METAL FLASHING BELOW SHINGLES
5/8" PLYWOOD
FILL BTW. BEAMS AT ALL CONC. BLOCK STEPS WITH CONC.
1/2" Ø x 14" BOLT TYP.
"ALCOA DNH" EDGE #8SH (BROWN)
FASCIA CUT FROM 2x10
1/2" Ø x 10" ANCHOR BOLT 3'-0" O.C.
5/8" PLYWOOD SIDING

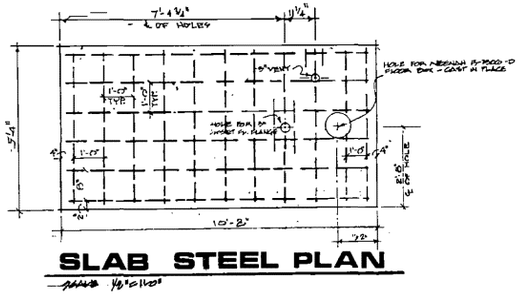
7 RIDGE


FIBER GLASS SHINGLES
15# FELT
5/8" T&G WOOD DECK
ALUM. EDGE
CONC. FILL BTW. BEAMS AT ALL CONC. BLOCK STEPS. (TYP.)
6"x10"
6 - 1/2" Ø x 14" BOLTS
8" CONC. BLOCK
1'-0" TO BEAM FACE

8 EAVE



9 SKYLIGHT



SLAB STEEL PLAN

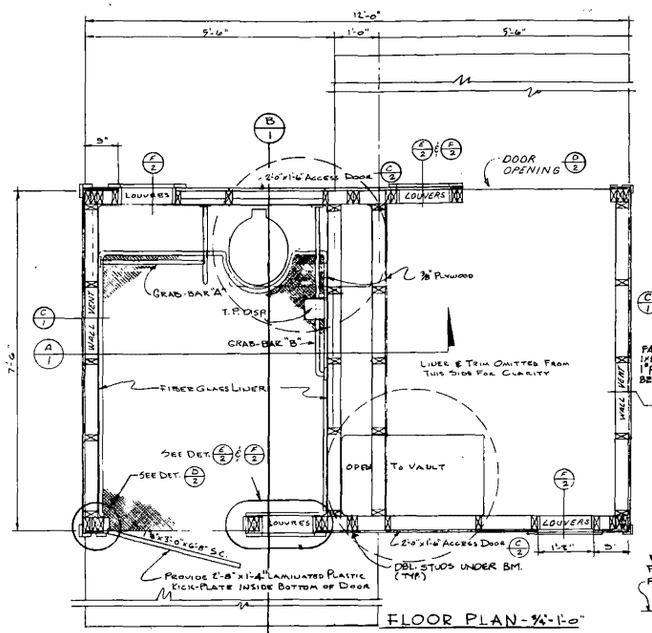
Single Unit Chemical Toilet Concrete Block With Wood Exterior

1 of 1

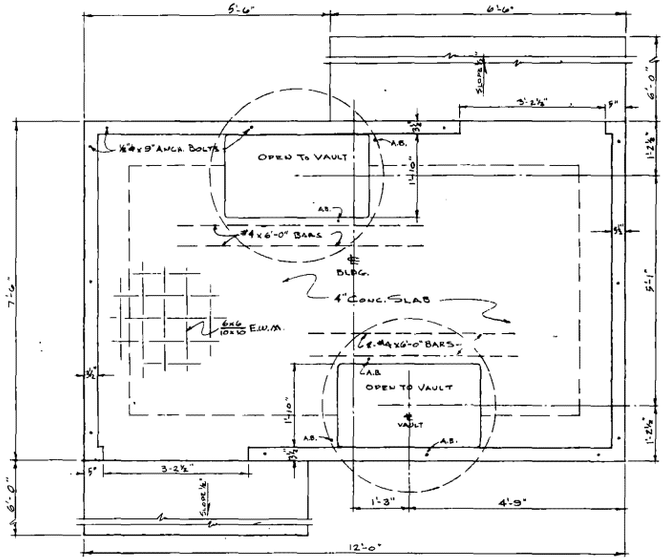
R-8
B-7834
■ Details Complete
□ Details Incomplete

Forest Service · USDA

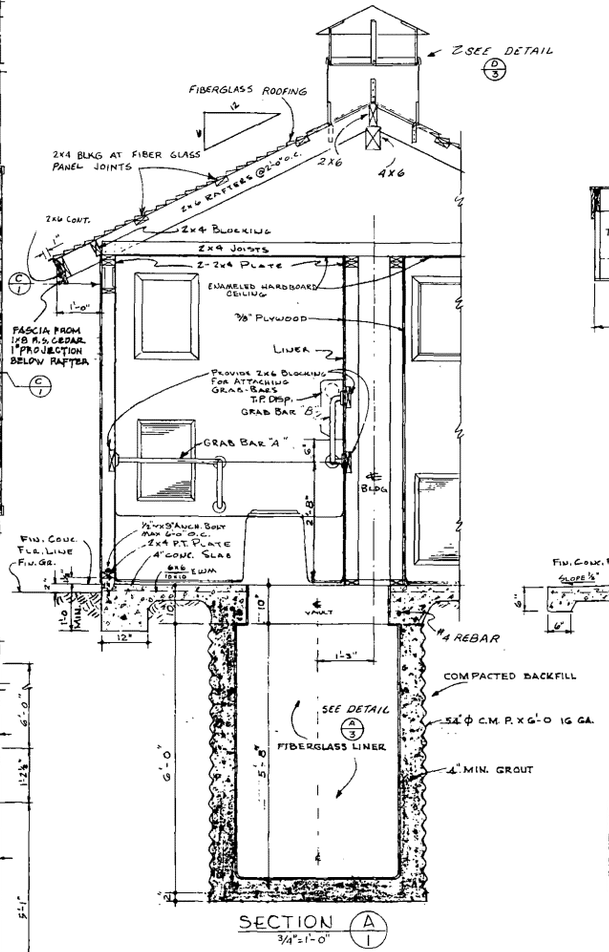
FOREST SERVICE USDA DEPARTMENT OF AGRICULTURE



FLOOR PLAN - 3/4"=1'-0"

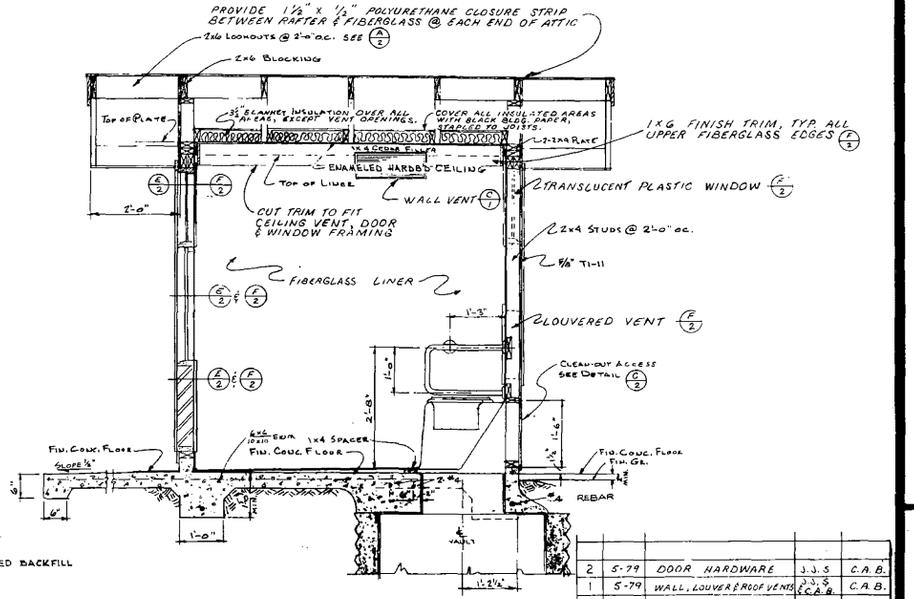


FOUNDATION PLAN - 3/4"=1'-0"



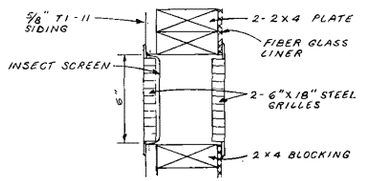
SECTION (A/1) 3/4"=1'-0"

Note:
FIBERGLASS LINER DIMENSIONS ARE VARIABLE. CONTRACTOR SHOULD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

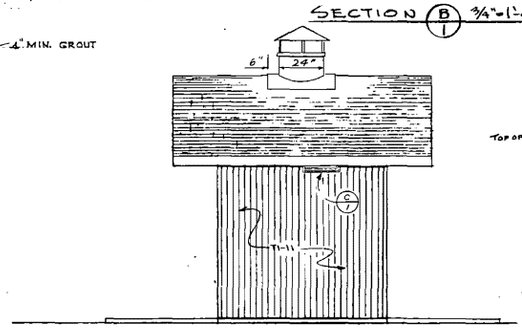

PROVIDE 1½" x ½" POLYURETHANE CLOSURE STRIP BETWEEN RAFTER & FIBERGLASS @ EACH END OF ATTIC
2x6 LOOKOUTS @ 2'-0" o.c. SEE A/2
2x6 BLOCKING
TOP OF PLATE
3½" BLANKET INSULATION OVER ALL AT. EAS, EXCEPT VENT OPENINGS.
COVER ALL INSULATED AREAS WITH BLACK BLDG. PAPER, STAPLED TO JOISTS.
1x4 CEDAR FASCIA
2-2x4 PLATE
1X6 FINISH TRIM, TYP. ALL UPPER FIBERGLASS EDGES F/2
ENAMELED HARDBD CEILING
TOP OF LINER
WALL VENT C/1
TRANSLUCENT PLASTIC WINDOW F/2
CUT TRIM TO FIT CEILING VENT, DOOR & WINDOW FRAMING
2x4 STUDS @ 2'-0" oc.
5/8" T1-11
FIBERGLASS LINER
LOUVERED VENT F/2
CLEAN-OUT ACCESS SEE DETAIL C/2
6x6 10/10 EWM
1x4 SPACER
FIN. CONC. FLOOR
FIN. CONC. FLOOR SLOPE ¼"
FIN. GR.
#4 REBAR
VAULT
2'-8"
1'-0"
6"
1'-2½"
1'-3"

SECTION (B/1) 3/4"=1'-0"

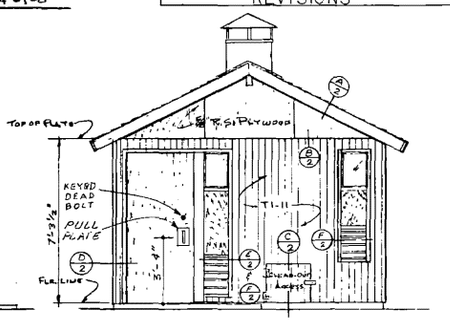
NO.	DATE	DESCRIPTION	BY	DRN.
REVISIONS				
2	5-79	DOOR HARDWARE	J.J.S.	C.A.B.
1	5-79	WALL, LOUVER & ROOF VENTS	J.J.S. C.A.B.	C.A.B.



WALL VENT (C/1) 3" = 1'-0"



SIDE ELEVATION 3/8"=1'-0"



FRONT/REAR ELEVATION 3/8"=1'-0"

Two Unit Vault Toilet Wood Frame With Wood Exterior

1 of 1

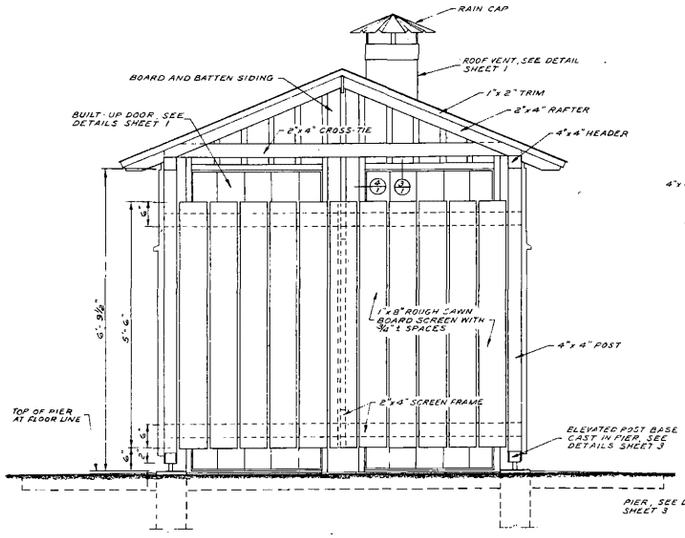
R-6
1002-6A

☐ Details Complete
■ Details Incomplete

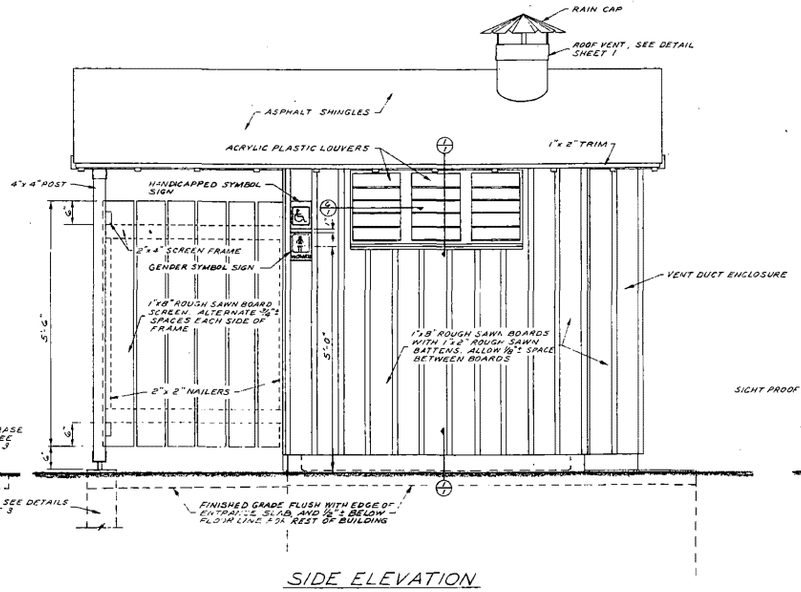
Forest Service · USDA

FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE

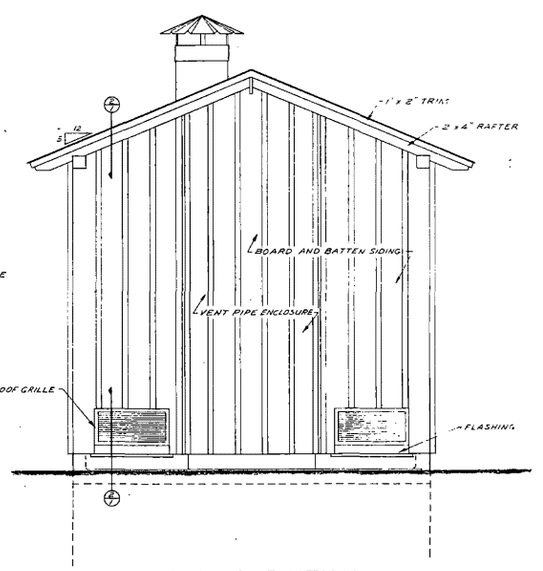
Two-Unit Vault Toilet Wood Frame With Wood Exterior


RAIN CAP
ROOF VENT, SEE DETAIL SHEET 1
BOARD AND BATTEN SIDING
1"x 2" TRIM
BUILT-UP DOOR, SEE DETAILS SHEET 1
2"x 4" RAFTER
2"x 4" CROSS TIE
4"x 4" HEADER
1"x 8" ROUGH SAWN BOARD SCREEN WITH 3/4" SPACES
4"x 4" POST
2"x 4" SCREEN FRAME
TOP OF PIER AT FLOOR LINE
ELEVATED POST BASE CAST IN PIER, SEE DETAILS SHEET 3
PIER, SEE DETAILS SHEET 3

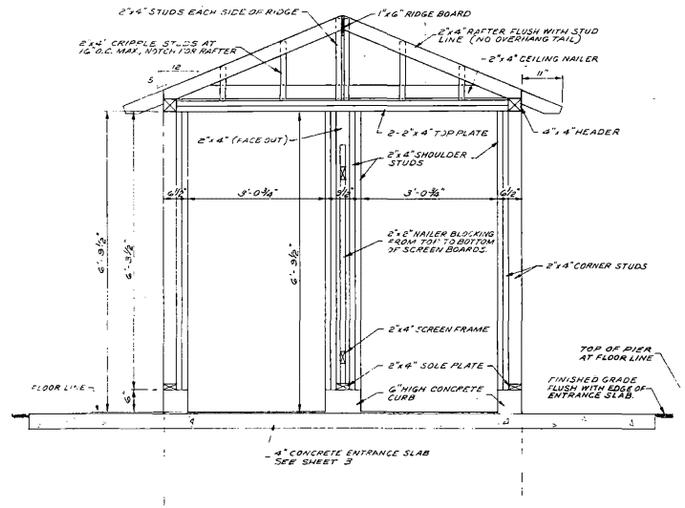
FRONT ELEVATION


RAIN CAP
ROOF VENT, SEE DETAIL SHEET 1
ASPHALT SHINGLES
ACRYLIC PLASTIC LOUVERS
1"x 2" TRIM
4"x 4" POST
HANDICAPPED SYMBOL SIGN
2"x 4" SCREEN FRAME
GENDER SYMBOL SIGN
VENT DUCT ENCLOSURE
1"x 8" ROUGH SAWN BOARD SCREEN, ALTERNATE 3/4" SPACES EACH SIDE OF FRAME
1"x 8" ROUGH SAWN BOARDS WITH 1"x 2" ROUGH SAWN BATTENS, ALLOW 3/4" SPACE BETWEEN BOARDS
2"x 2" NAILERS
FINISHED GRADE FLUSH WITH EDGE OF ENTRANCE SLAB AND 1/2" BELOW FLOOR LINE FOR REST OF BUILDING

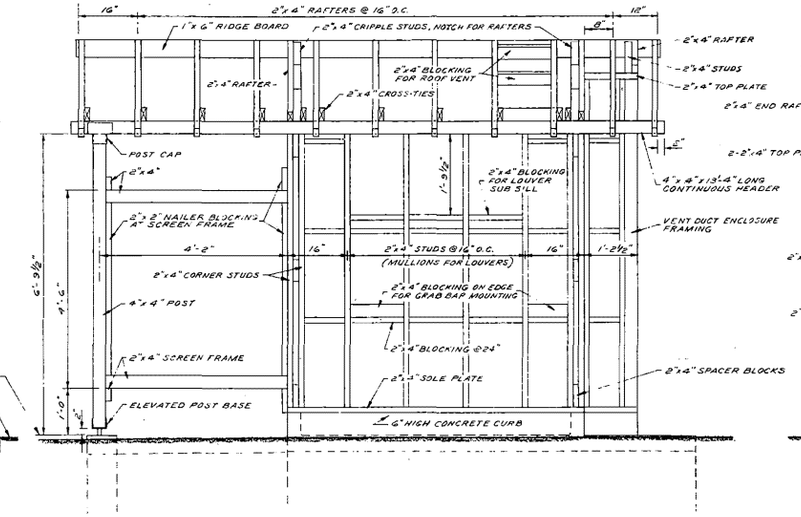
SIDE ELEVATION



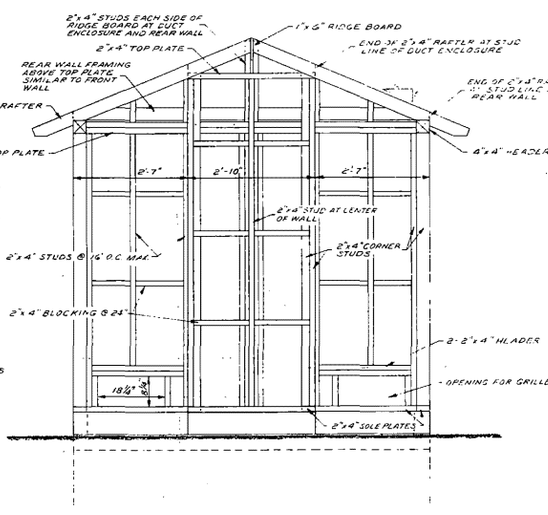
REAR ELEVATION


2"x4" STUDS EACH SIDE OF RIDGE
1"x6" RIDGE BOARD
2"x4" RAFTER FLUSH WITH STUD LINE (NO OVERHANG TAIL)
2"x4" CRIPPLE STUDS AT 16" O.C. MAX., NOTCH FOR RAFTER
2"x4" CEILING NAILER
2-2"x4" TOP PLATE
4"x4" HEADER
2"x4" (FACE OUT)
2"x4" SHOULDER STUDS
2"x6" NAILER BLOCKING FROM TOP TO BOTTOM OF SCREEN BOARDS
2"x4" CORNER STUDS
2"x4" SCREEN FRAME
2"x4" SOLE PLATE
6" HIGH CONCRETE CURB
TOP OF PIER AT FLOOR LINE
FINISHED GRADE FLUSH WITH EDGE OF ENTRANCE SLAB
FLOOR LINE
4" CONCRETE ENTRANCE SLAB SEE SHEET 3

FRONT FRAMING ELEVATION
(SECTION NEAR FRONT WALL)


2"x4" RAFTERS @ 16" O.C.
1"x6" RIDGE BOARD
2"x4" CRIPPLE STUDS, NOTCH FOR RAFTERS
2"x4" RAFTER
2"x4" STUDS
2"x4" TOP PLATE
2"x4" CROSS-TIES
6"x8" BLOCKING FOR ROOF VENT
2"x4" BLOCKING FOR LOUVER SUB SILL
4"x 4"x 13'-4" LONG CONTINUOUS HEADER
VENT DUCT ENCLOSURE FRAMING
POST CAP
2"x 2" NAILER BLOCKING AT SCREEN FRAME
2"x4" STUDS @ 16" O.C. (MULLIONS FOR LOUVERS)
2"x4" CORNER STUDS
2"x4" BLOCKING FOR GRAB BAR MOUNTING
4"x 4" POST
2"x4" BLOCKING @ 24"
2"x4" SCREEN FRAME
2"x4" SOLE PLATE
2"x4" SPACER BLOCKS
ELEVATED POST BASE
6" HIGH CONCRETE CURB

SIDE FRAMING ELEVATION


2"x4" STUDS EACH SIDE OF RIDGE BOARD AT DUCT ENCLOSURE AND REAR WALL
1"x 6" RIDGE BOARD
2"x4" TOP PLATE
END OF 2"x4" RAFTER AT STUD LINE OF DUCT ENCLOSURE
REAR WALL FRAMING ABOVE TOP PLATE, SIMILAR TO FRONT WALL
END OF 2"x4" RAFTER AT STUD LINE OF REAR WALL
2"x4" END RAFTER
2-2"x4" TOP PLATE
4"x4" HEADER
2'-7"
2'-10"
2'-7"
2"x4" STUD AT CENTER OF WALL
2"x4" CORNER STUDS
2"x4" STUDS @ 16" O.C. MAX.
2"x4" BLOCKING @ 24"
2-2"x4" HEADER
OPENING FOR GRILLE
2"x4" SOLE PLATES

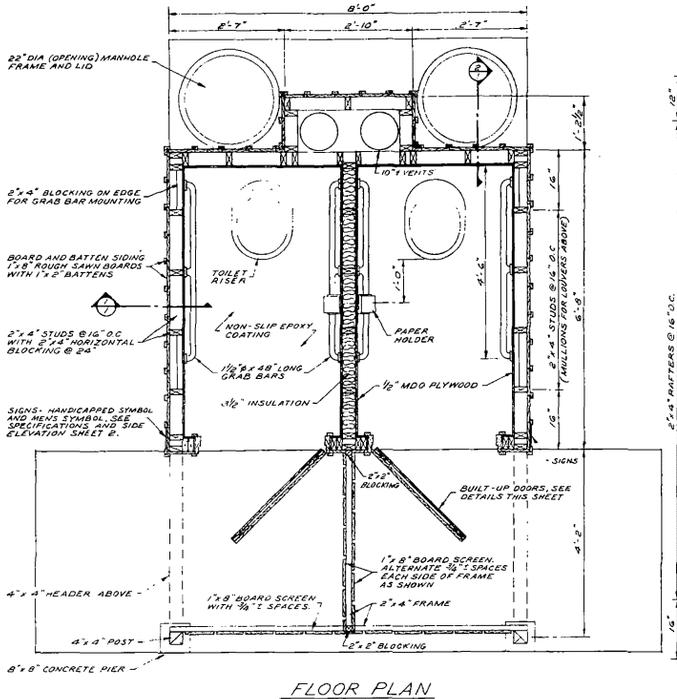
REAR FRAMING ELEVATION

Forest Service · USDA

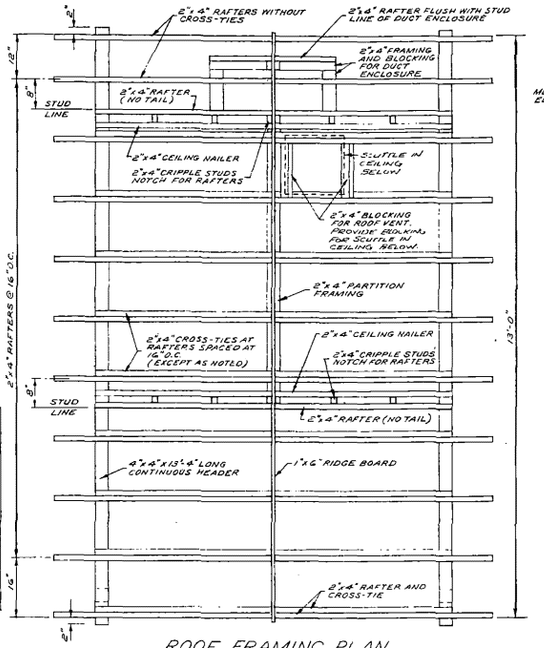
1 of 2

R-9

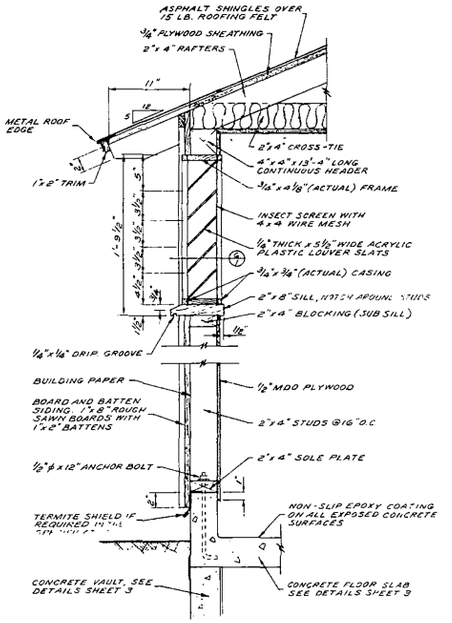
☐ Details Complete
■ Details Incomplete


8'-0"
2'-7"
2'-10"
2'-7"
22" DIA (OPENING) MANHOLE FRAME AND LID
10"ø VENTS
2"x4" BLOCKING ON EDGE FOR GRAB BAR MOUNTING
BOARD AND BATTEN SIDING 1"x8" ROUGH SAWN BOARDS WITH 1"x2" BATTENS
TOILET RISER
NON-SLIP EPOXY COATING
PAPER HOLDER
2"x4" STUDS @16" O.C WITH 2"x4" HORIZONTAL BLOCKING @ 24"
1½"x8"x48" LONG GRAB BARS
½" MDO PLYWOOD
1½" INSULATION
SIGNS - HANDICAPPED SYMBOL AND MEN'S SYMBOL. SEE SPECIFICATIONS AND SIDE ELEVATION SHEET 2.
2"x8" BLOCKING
BUILT-UP DOORS, SEE DETAILS THIS SHEET
2"x4" STUDS @14" O.C (MULLIONS FOR LOUVERS ABOVE)
SIGNS
1"x8" BOARD SCREEN, ALTERNATE ⅜" SPACES EACH SIDE OF FRAME AS SHOWN
4"x4" HEADER ABOVE
1"x8" BOARD SCREEN WITH ⅜" SPACES.
2"x4" FRAME
4"x4" POST
2"x2" BLOCKING
8"x8" CONCRETE PIER

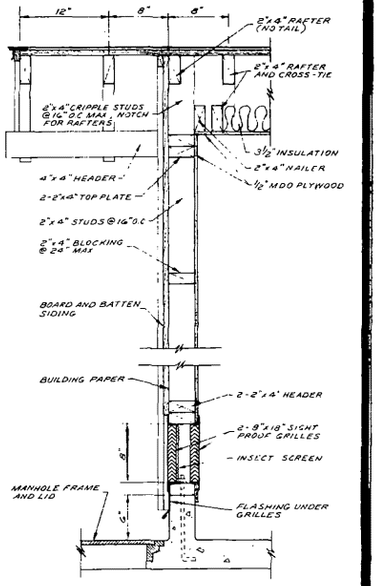
FLOOR PLAN
SCALE ⅜"=1'-0"


2"x4" RAFTERS WITHOUT CROSS-TIES
2"x4" RAFTER FLUSH WITH STUD LINE OF DUCT ENCLOSURE
2"x4" FRAMING AND BLOCKING FOR DUCT ENCLOSURE
2"x4" RAFTER (NO TAIL)
STUD LINE
2"x4" CEILING NAILER
2"x4" CRIPPLE STUDS NOTCH FOR RAFTERS
SCUTTLE IN CEILING BELOW
2"x4" BLOCKING FOR ROOF VENT. PROVIDE BLOCKING FOR SCUTTLE IN CEILING BELOW.
2"x4" PARTITION FRAMING
2"x4" CEILING NAILER
2"x4" CROSS-TIES AT RAFTERS SPACED AT 16" O.C (EXCEPT AS NOTED)
2"x4" CRIPPLE STUDS NOTCH FOR RAFTERS
2"x4" RAFTER (NO TAIL)
2"x4" RAFTERS @16" O.C.
4"x4"x13'-6" LONG CONTINUOUS HEADER
1"x6" RIDGE BOARD
2"x4" RAFTER AND CROSS-TIE

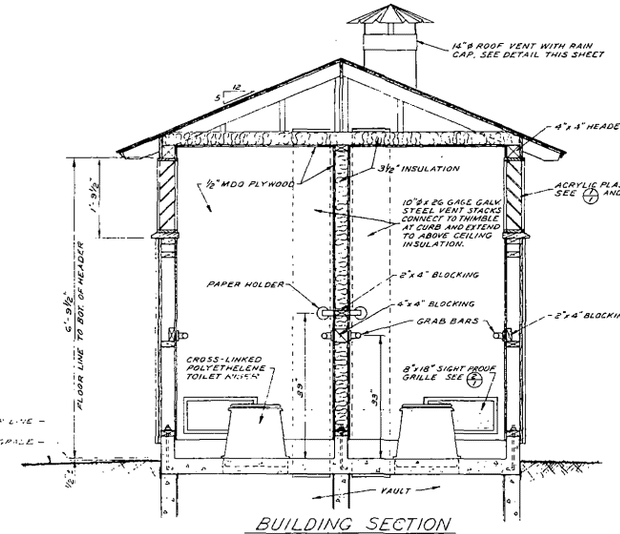
ROOF FRAMING PLAN
SCALE ⅜"=1'-0"


ASPHALT SHINGLES OVER 15 LB. ROOFING FELT
⅜" PLYWOOD SHEATHING
2"x4" RAFTERS
METAL ROOF EDGE
1"x2" TRIM
2"x4" CROSS-TIE
4"x4"x13'-6" LONG CONTINUOUS HEADER
⅜"x4½" (ACTUAL) FRAME
INSECT SCREEN WITH 4x4 WIRE MESH
½" THICK x 5½" WIDE ACRYLIC PLASTIC LOUVER SLATS
⅜"x3⅜" (ACTUAL) CASING
2"x8" SILL, NOTCH AROUND STUDS
2"x4" BLOCKING (SUB SILL)
½"x½" DRIP GROOVE
BUILDING PAPER
½" MDO PLYWOOD
BOARD AND BATTEN SIDING 1"x8" ROUGH SAWN BOARDS WITH 1"x2" BATTENS
2"x4" STUDS @16" O.C
½"ø x 12" ANCHOR BOLT
2"x4" SOLE PLATE
TERMITE SHIELD IF REQUIRED IN THE AREA
NON-SLIP EPOXY COATING ON ALL EXPOSED CONCRETE SURFACES
CONCRETE VAULT, SEE DETAILS SHEET 3
CONCRETE FLOOR SLAB SEE DETAILS SHEET 3

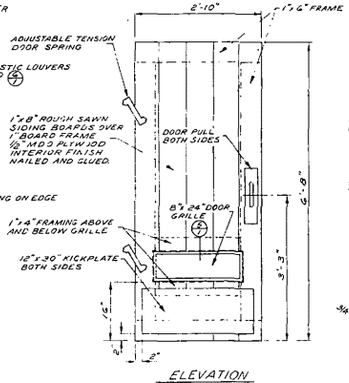
1/1 TYPICAL SIDEWALL SECTION
SCALE: 1½"=1'-0"



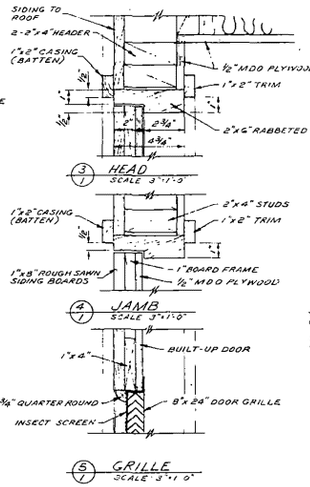
2/1 REAR WALL SECTION
SCALE 1½"=1'-0"


14"ø ROOF VENT WITH RAIN CAP. SEE DETAIL THIS SHEET
5:12
4"x4" HEADER
½" MDO PLYWOOD
3½" INSULATION
ACRYLIC PLASTIC LOUVERS SEE 4/1 AND 5/1
10"ø 26 GAGE GALV STEEL VENT STACKS CONNECT TO THIMBLE AT CURB AND EXTEND TO ABOVE CEILING INSULATION.
PAPER HOLDER
2"x4" BLOCKING
6"x4" BLOCKING
GRAB BARS
2"x4" BLOCKING ON EDGE
CROSS-LINKED POLYETHELENE TOILET RISER
8"x18" SIGHT PROOF GRILLE SEE 4/1
6'-3½" FLOOR LINE TO BOT. OF HEADER
FLOOR LINE
GRADE LINE
VAULT

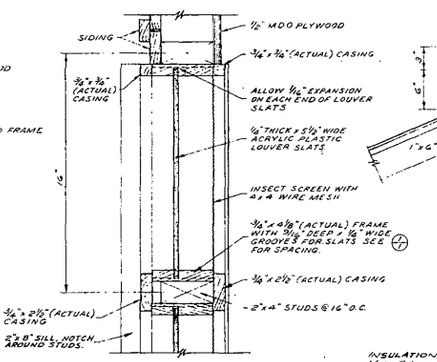
BUILDING SECTION
SCALE ⅜"=1'-0"


2'-10"
1'-6" FRAME
ADJUSTABLE TENSION DOOR SPRING
1"x8" ROUGH SAWN SIDING BOARDS OVER 1" BOARD FRAME ½" MDO PLYWOOD INTERIOR FINISH NAILED AND GLUED.
DOOR PULL BOTH SIDES
8"x24" DOOR GRILLE
1"x4" FRAMING ABOVE AND BELOW GRILLE
12"x30" KICKPLATE BOTH SIDES
6'-8"
3'-3"

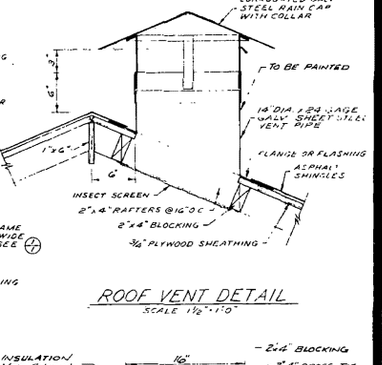
ELEVATION
SCALE ⅜"=1'-0"



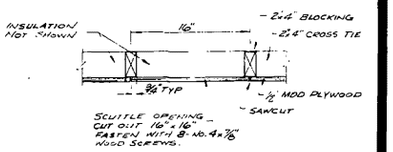
DOOR DETAILS


SIDING
½" MDO PLYWOOD
⅜"x3½" (ACTUAL) CASING
ALLOW 1/16" EXPANSION ON EACH END OF LOUVER SLATS
½" THICK x 5½" WIDE ACRYLIC PLASTIC LOUVER SLATS
INSECT SCREEN WITH 4x4 WIRE MESH
⅜"x4½" (ACTUAL) FRAME WITH ⅜"x½" DEEP x ⅜" WIDE GROOVES FOR SLATS SEE 4/1 FOR SPACING.
⅜"x2½" (ACTUAL) CASING
2"x4" STUDS @16" O.C
⅜"x2½" (ACTUAL) CASING
2"x8" SILL NOTCH AROUND STUDS.

6/1 LOUVER DETAIL
SCALE 3"=1'-0"



ROOF VENT DETAIL
SCALE 1½"=1'-0"



SCUTTLE OPENING - CUT OUT 16"x16" FASTEN WITH 8 NO. 4x⅜" WOOD SCREWS.

SCUTTLE
SCALE 1½"=1'-0"

Two-Unit Vault Toilet Wood Frame With Wood Exterior

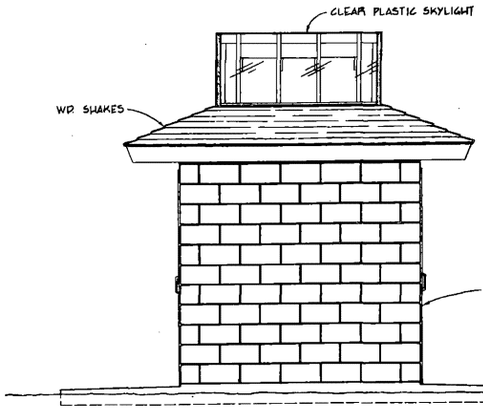
2 of 2

R-9

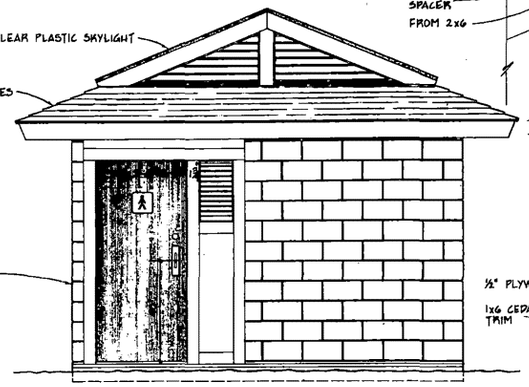
☐ Details Complete
■ Details Incomplete

Forest Service • USDA

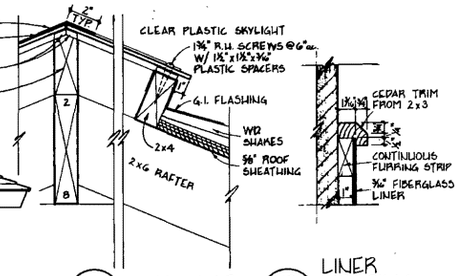
FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE



SIDE ELEVATION
1/2"=1'-0"

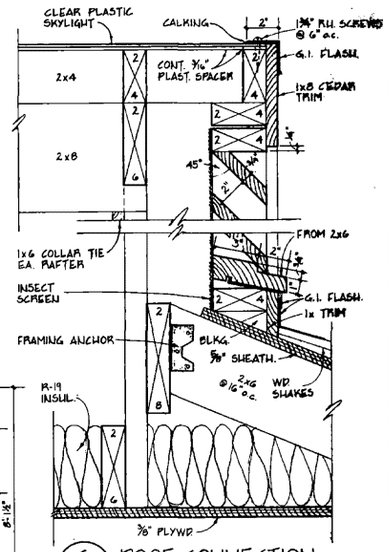


FRONT & REAR ELEVATION
1/2"=1'-0"

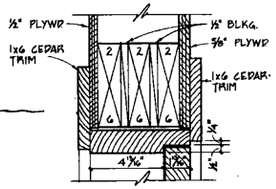


A/2 SKYLIGHT
3"=1'-0"

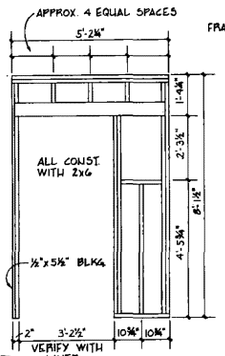
D/2 LINER MOLDING
3"=1'-0"



G/2 ROOF CONNECTION
3"=1'-0"

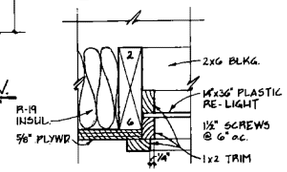


B/2 DOOR HEAD
3"=1'-0"

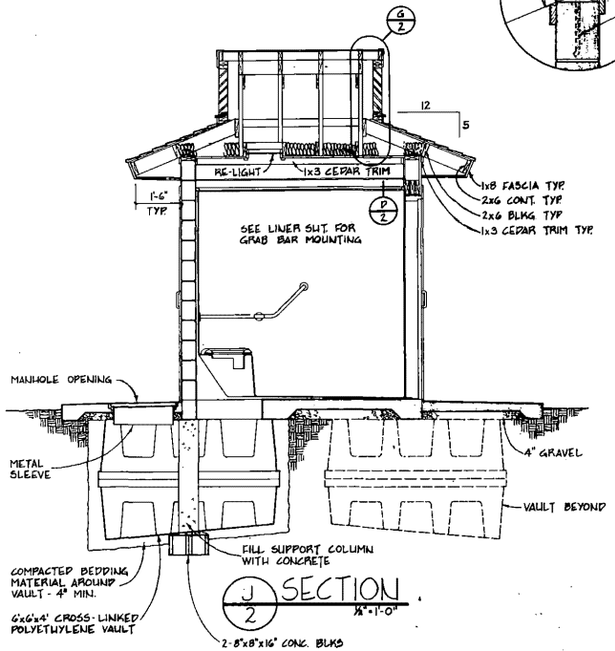


E/2 FRAMING ELEV.
½"=1'-0"

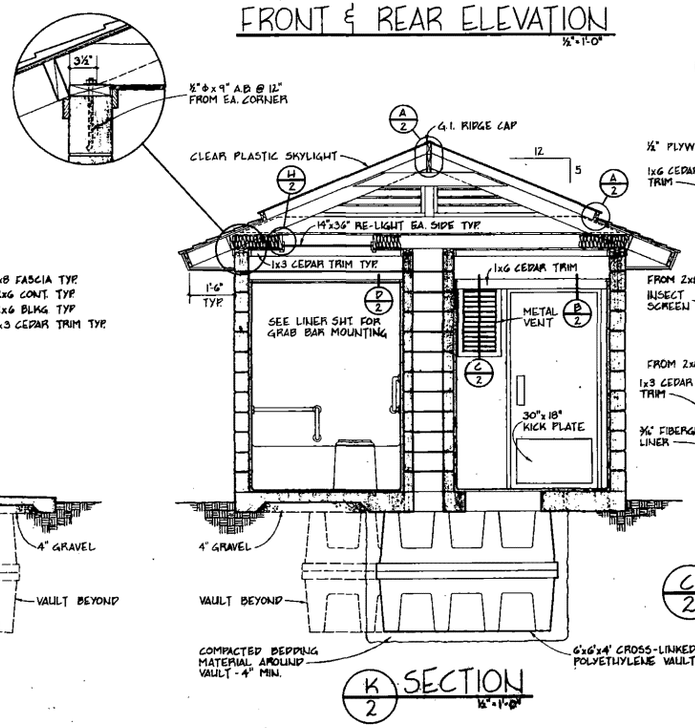
NOTE:
FASTEN FRAME TO MASONRY WALL WITH (6) 5/8"x6" HEX NUT SLEEVE ANCHORS.



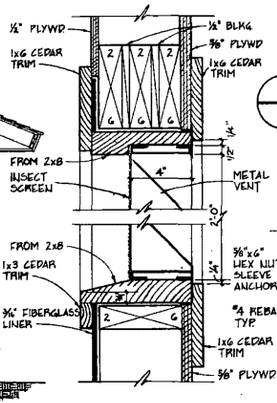
H/2 RE-LIGHT
3"=1'-0"



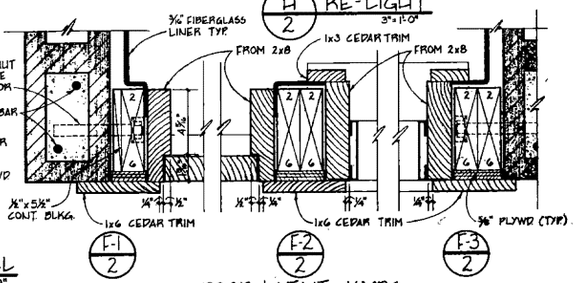
J/2 SECTION
½"=1'-0"



K/2 SECTION
½"=1'-0"



C/2 VENT HEAD & SILL
3"=1'-0"



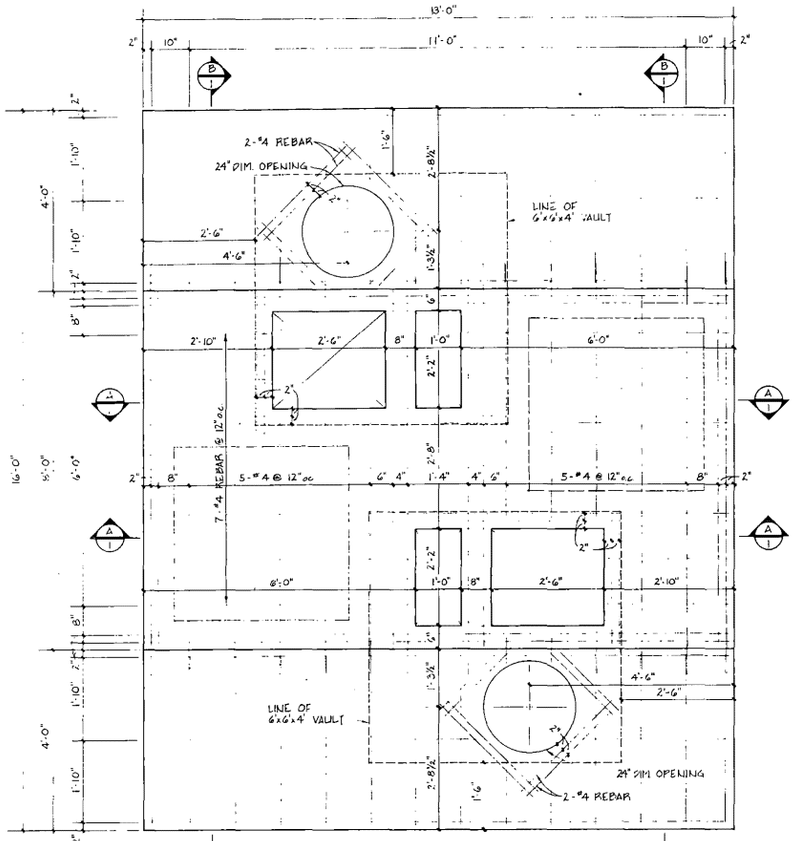
DOOR & VENT JAMBS
3"=1'-0"

Two Unit Vault Toilet Concrete Block

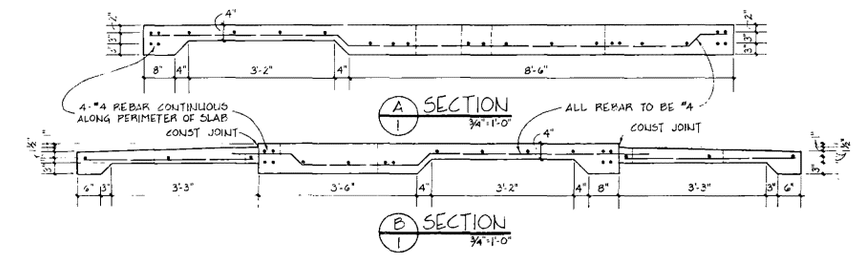
1 of 2

R-6
PI.1002-8CB
■Details Complete
□Details Incomplete

Forest Service · USDA

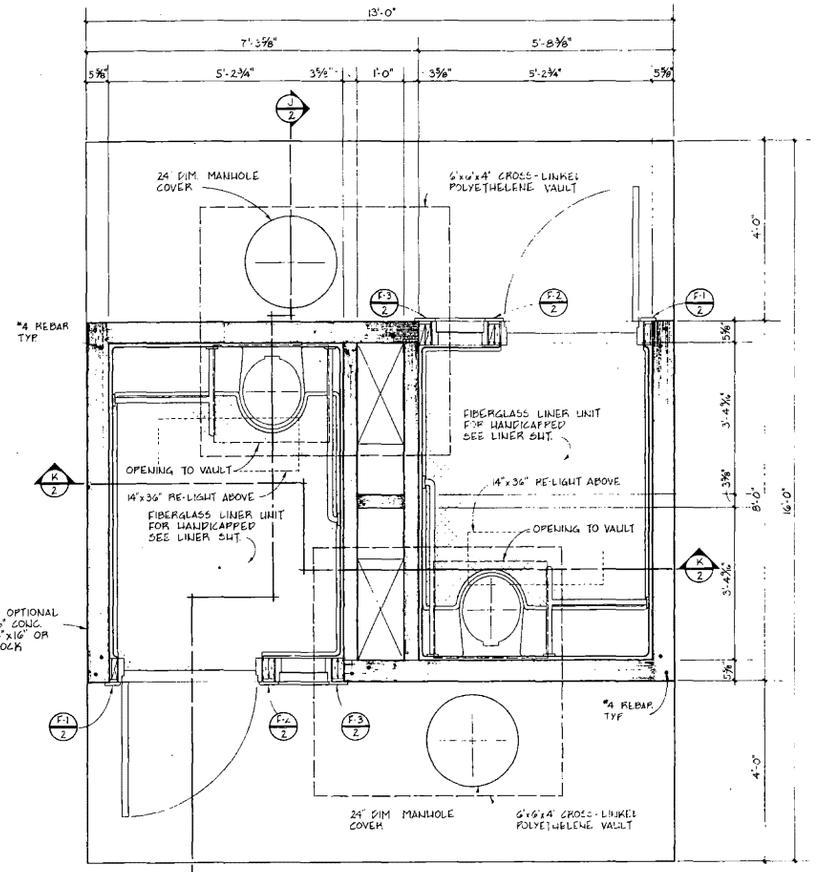


FOUNDATION PLAN
3/4"=1'-0"



A SECTION
3/4"=1'-0"

B SECTION
3/4"=1'-0"



NOTE:
WALL MATERIAL OPTIONAL EITHER 6"x8"x16" CONC. BLOCK OR 6"x4"x16" OR 6"x4"x12 CLAY BLOCK SEE SPECS

FLOOR PLAN
3/4"=1'-0"

DESIGN SNOW LOAD 50 LBS.

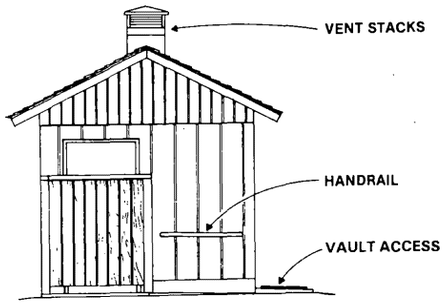
Two Unit Vault Toilet Concrete Block

2 of 2

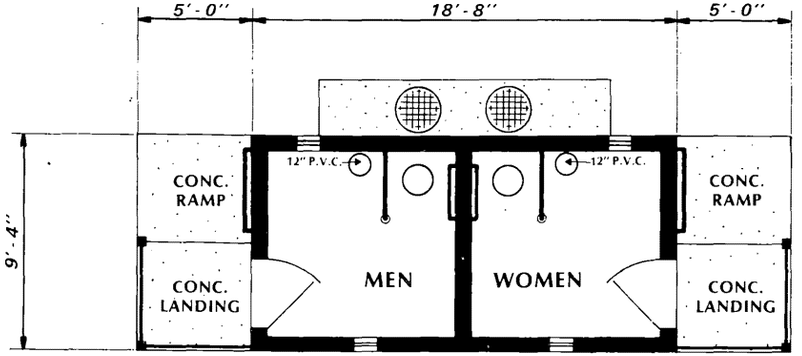
R-6
PI.1002-8CB
■ Details Complete
□ Details Incomplete

Forest Service · USDA

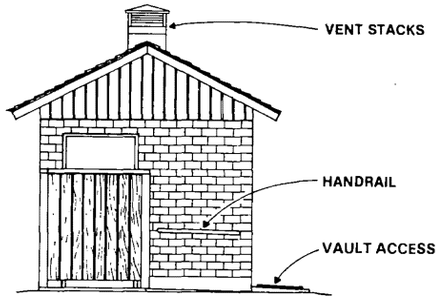
FOREST SERVICE · USDA · DEPARTMENT OF AGRICULTURE



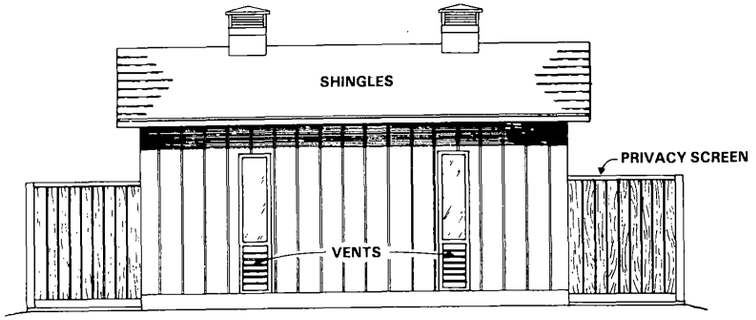
END ELEVATION



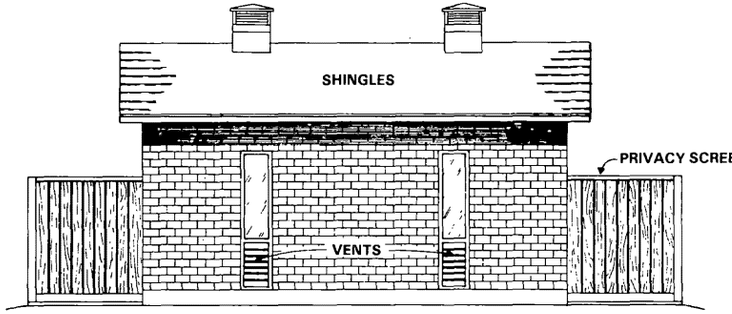
PLAN • "8"



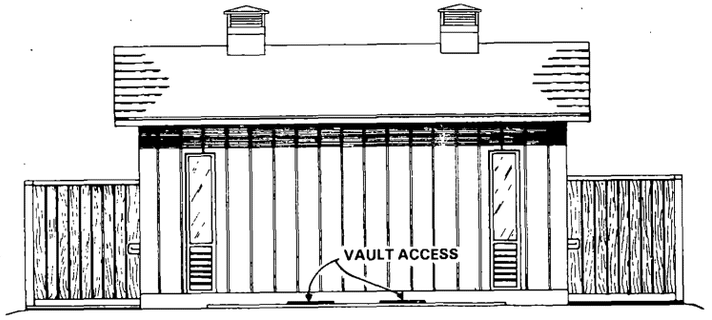
END ELEVATION



FRONT ELEVATION

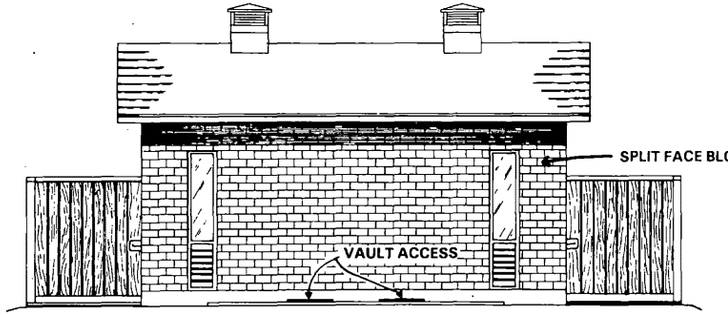


FRONT ELEVATION



REAR ELEVATION

NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGID VINYL.



REAR ELEVATION

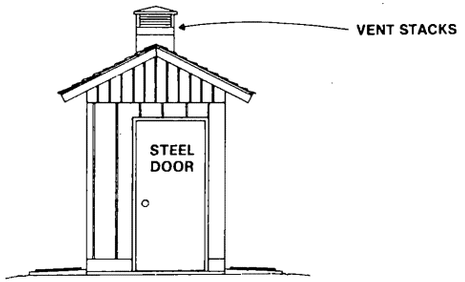
Two Unit Vault Toilet Wood Exterior & Bloc_ _xt_rior D_ ign

1 of 1

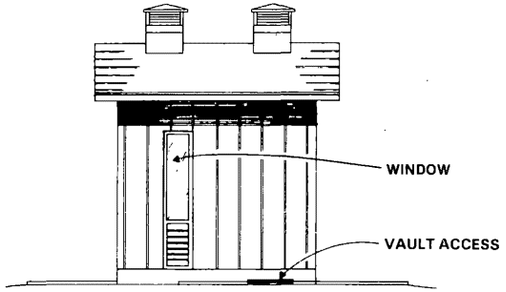
R-4

☐ Details Complete
Details Incomplete

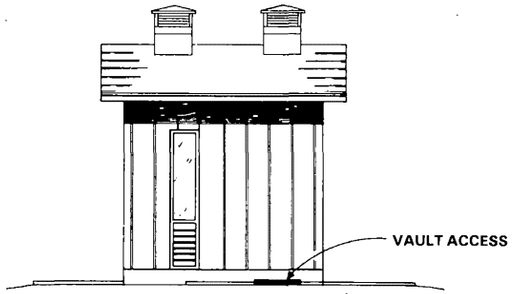
Forest Service · USDA



END ELEVATION

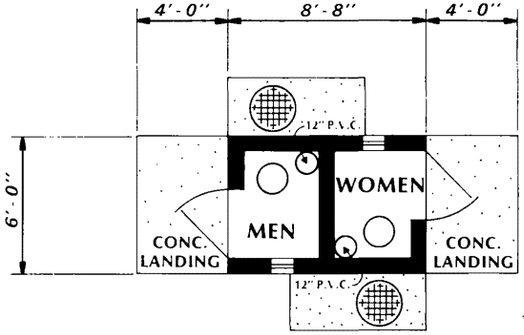


FRONT ELEVATION

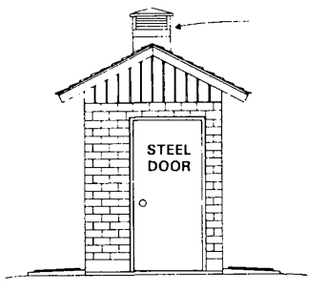


REAR ELEVATION

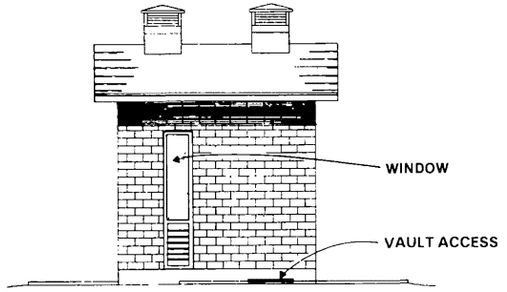
NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGID VINYL.



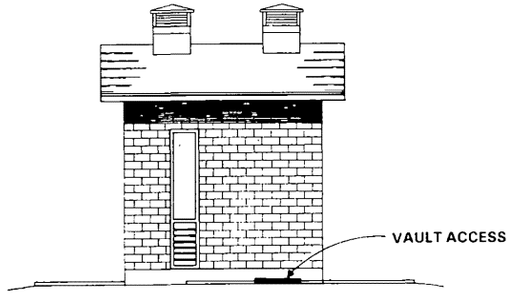
PLAN • "7"



END ELEVATION



FRONT ELEVATION



REAR ELEVATION

Two Unit Vault Toilet

Wood Exterior & Bloc_ _xt_rior D_ ign

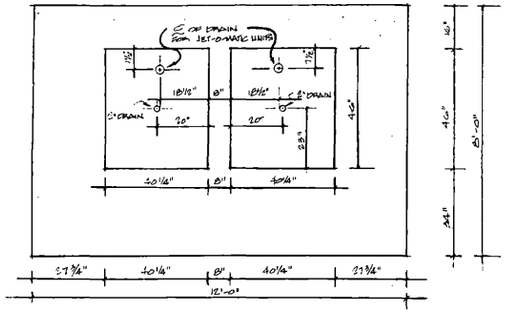
1 of 1

R-4

☐ Details Complete
Details Incomplete

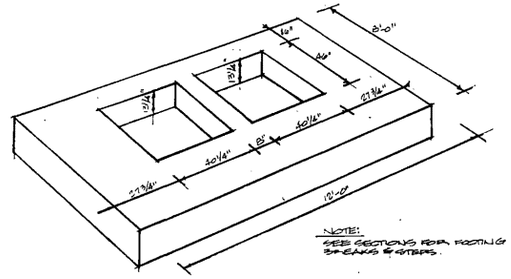
Forest Service · USDA

NOTE:
LOCATION OF DRAINS & DRAIN CONNECTIONS TO TOILET UNITS IS CRITICAL - CHECK ALL DIMENSIONS CAREFULLY ——— CHECK ALL CONCRETE FIT DIMENSIONS.



FOUNDATION PLAN

SCALE 1/2" = 1'-0"



NOTE:
SEE SECTIONS FOR FOOTING & PIER SIZES & DETAILS.

FOUNDATION SCHEMATIC

NO SCALE

DOOR & HARDWARE

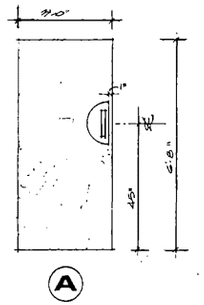
NO.	SIZE	TYPE	PUSH PLATE	PULL PLATE	HINGES	LOCK	REMARKS
A	3'-0" x 6'-8" x 1 3/8"	FLUSH SOLID CORE WOOD STAIN GRADE	#1118 - 10" x 2" BRONZE BY EMHART	#1848 - 10" x 2" BRONZE BY EMHART	FBB-199 4 1/2" x 4 1/2" CLOSE, BRONZE 1 1/2 PAIR, BACH DOOR, BY STANLEY	SURFACE BOLT & CYLINDER - 1 1/2" SOLID BRASS BY STANLEY	DOOR CLOSER - STANLEY #CD1701 ADJUSTABLE DOOR SPRING

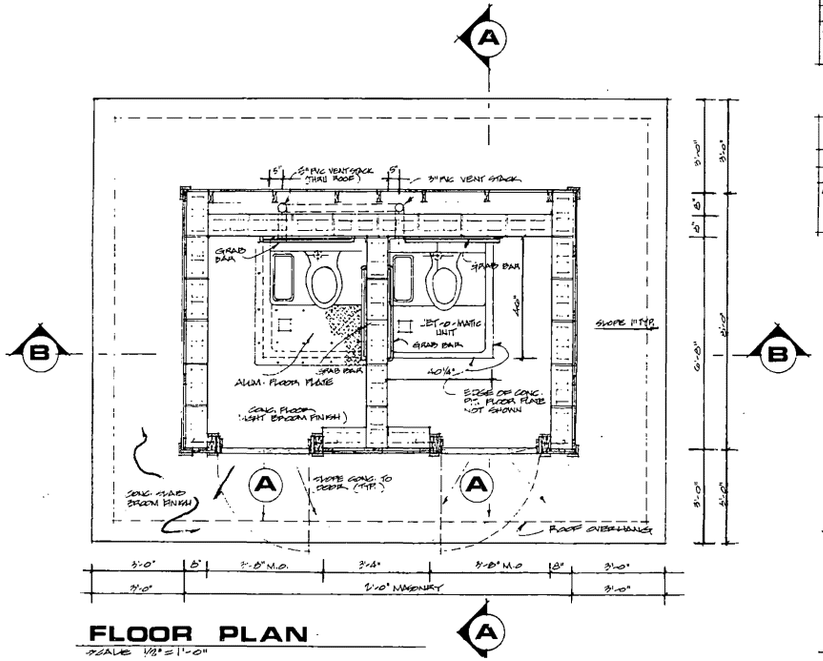
INTERIOR FINISH SCHEDULES

FLOOR		WALLS		CEILING		TRIM		REMARKS
MATERIALS	FINISH	MATERIALS	FINISH	MATERIALS	FINISH	MATERIALS	TRIM	
CONCRETE	PAINT	CONCRETE BLOCK	PAINT	WOOD 1x6 T&G	STAIN	WOOD	PAINT	

EXTERIOR FINISH SCHEDULES

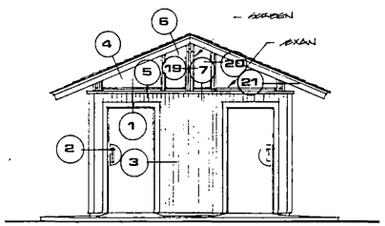
WALLS & CORNER TRIM		BEAMS, RAFTERS & TRIM		DOOR TRIM		SOFFIT		FASCIA		REMARKS
MATERIALS	FINISH	MATERIALS	FINISH	MATERIALS	FINISH	MATERIALS	FINISH	MATERIALS	FINISH	
5/8" PLYWOOD	STAIN	WOOD	PAINT	WOOD	PAINT	WOOD (1x6 T&G)	STAIN	METAL WOOD	"NUGGET BROWN" PAINT	PAINT DOORS (BOTH SIDES)



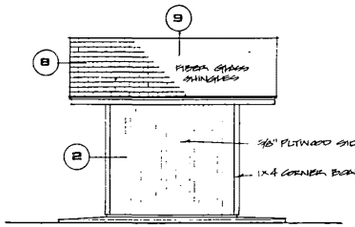


FLOOR PLAN

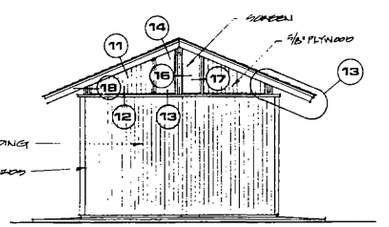
SCALE 1/2" = 1'-0"



front



side



back

ELEVATIONS

SCALE 1/4" = 1'-0"

Two Unit Chemical Toilet

Block With Wood Exterior

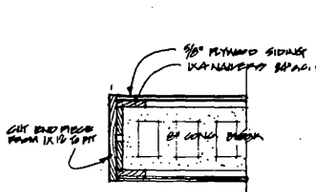
1 of 1

R-8
B-8111

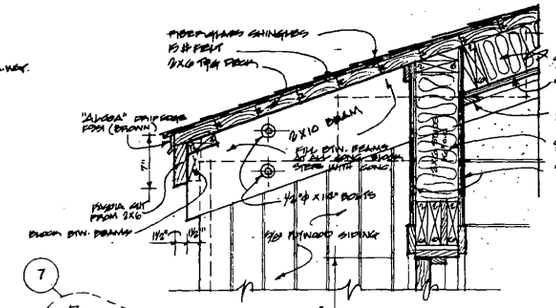
☐ Details Complete
■ Details Incomplete

Forest Service · USDA

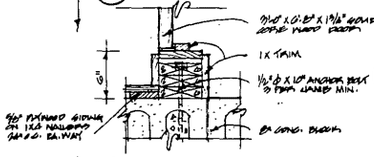
FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE



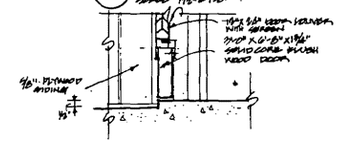
1 DETAIL



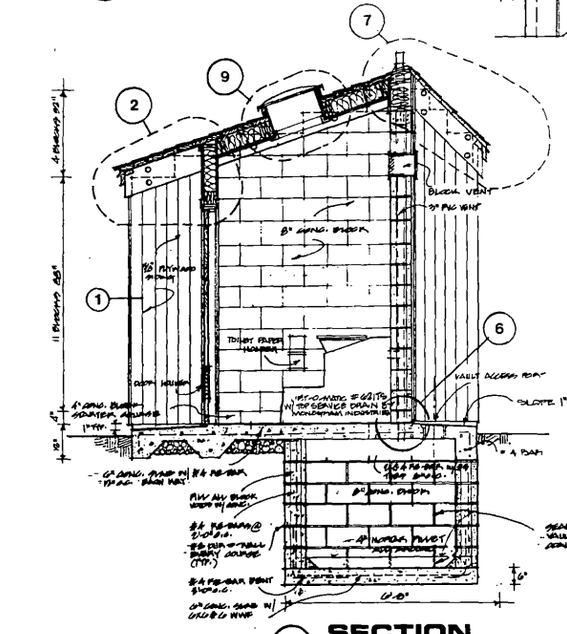
2 HEAD



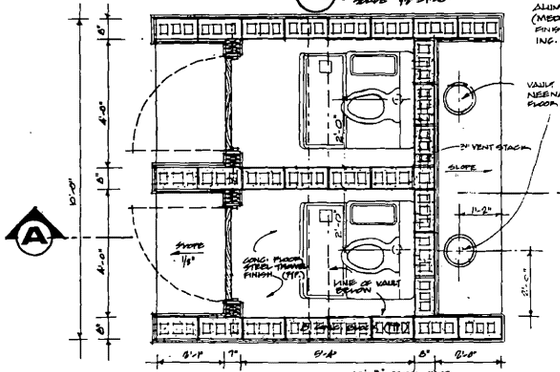
3 JAMB



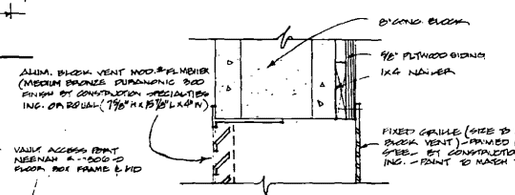
4 SILL



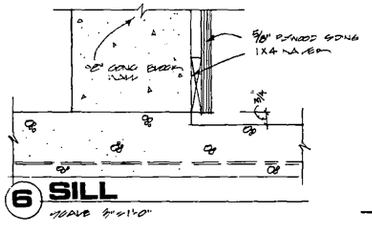
A SECTION



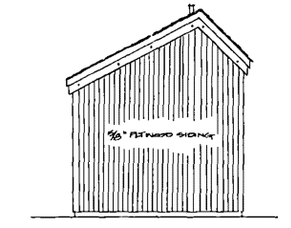
PLAN


ALUM. BLOCK VENT MOD. BY FLAMBEER (MEDIUM BRONZE DURANONIC 300 FINISH BY CONSTRUCTION SPECIALTIES INC. OR EQUAL (7 7/8" x 15 7/8" LAPIN)
8" CONC BLOCK
5/8" PLYWOOD SIDING
1X4 NAILER
FIXED GRILLE (SIZE TO MATCH BLOCK VENT) PRIMED 20 GA. STEEL BY CONSTRUCTION SPEC. INC. - PAINT TO MATCH TRIM.

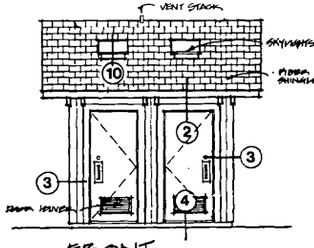
5 VENT



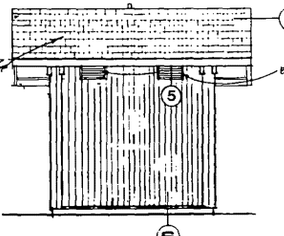
6 SILL



SIDE (TYP.)

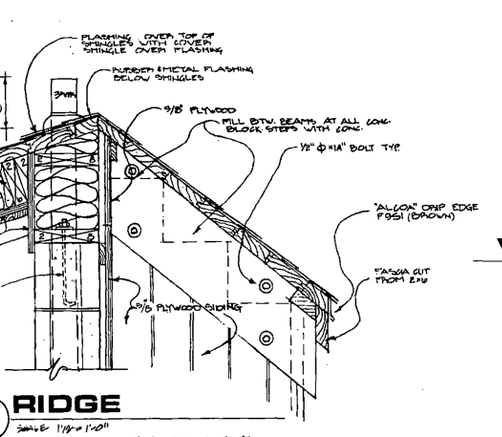


FRONT

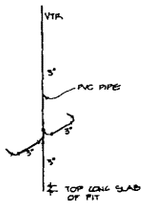


REAR

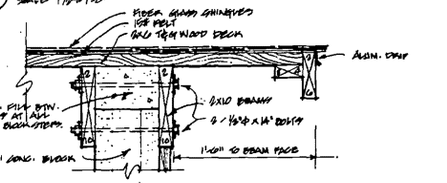
ELEVATIONS


FLASHING COVER TOP OF SHINGLES WITH COVER SHINGLE OVER FLASHING
RUBBER & METAL FLASHING BELOW SHINGLES
5/8" PLYWOOD
FILL BTW. BEAMS AT ALL LONG BLOCK STEPS WITH CONC.
1/2" ø x 14" BOLT TYP.
"ALASKA" DRIP EDGE FASCIA (BROWN)
1/2" ø x 10" ANCHOR BOLT 3'-0" O.C.
FASCIA CUT FROM 2x6
5/8" PLYWOOD SIDING

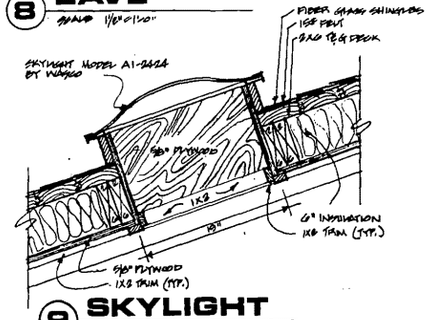
7 RIDGE



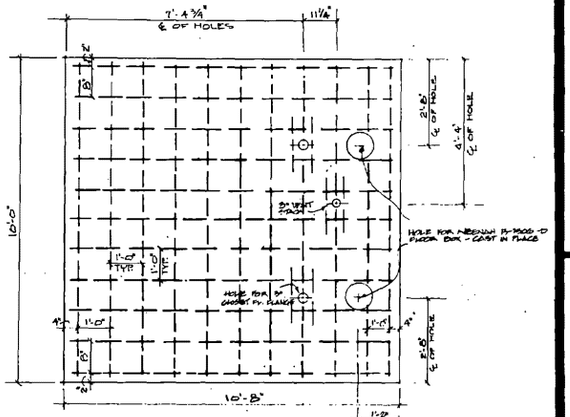
VENT STACK


FIBER GLASS SHINGLES 15# FELT
1"x6" T&G WOOD DECK
ALUM. DRIP
CONC. FILL BTW. BEAMS AT ALL LONG. BLOCK STEPS (TYP.)
2"x10" BEAMS
1/2" ø x 14" BOLTS
8" CONC. BLOCK
1'-0" TO BEAM FACE

8 EAVE



9 SKYLIGHT



SLAB STEEL PLAN

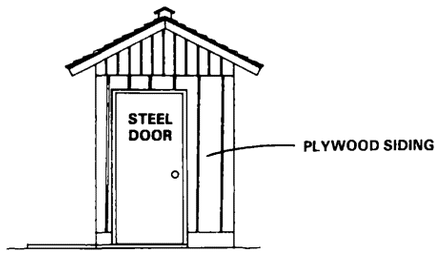
Two Unit Chemical Flush Toilet Block With Wood Exterior

1 of 1

R-8
B-7821
■ Details Complete
□ Details Incomplete

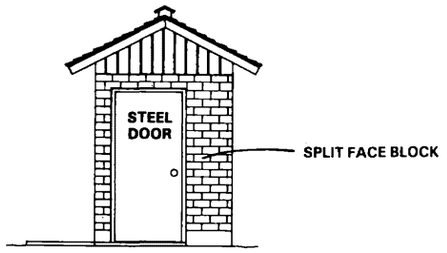
Forest Service · USDA

FOREST SERVICE · USDA · DEPARTMENT OF AGRICULTURE

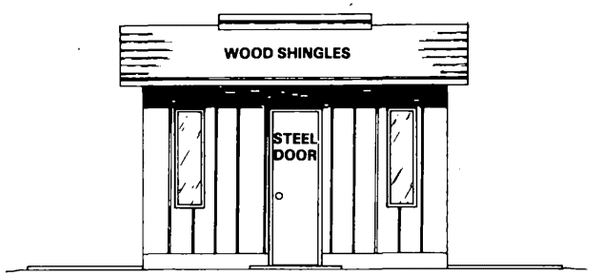


END ELEVATION

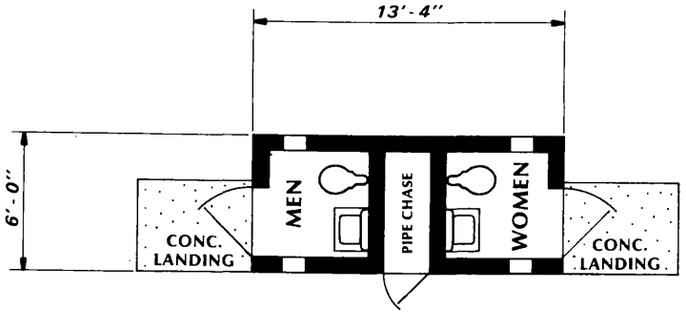
NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGID VINYL.

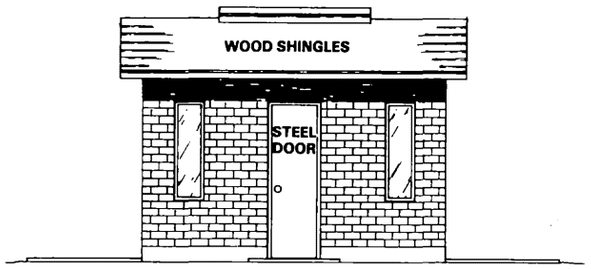


END ELEVATION

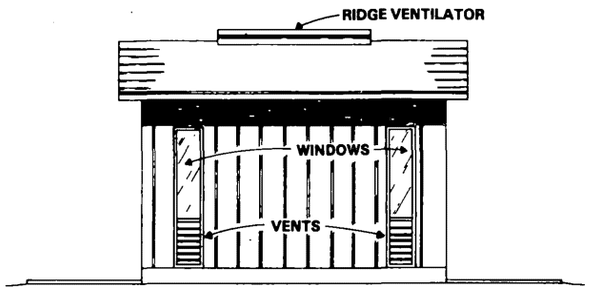


FRONT ELEVATION



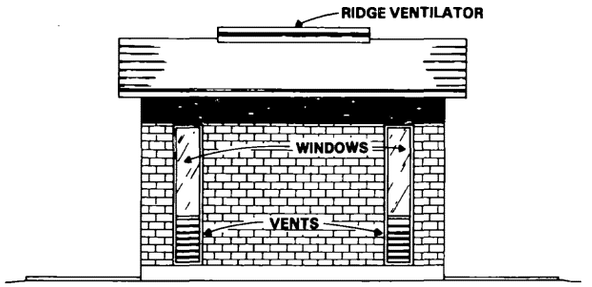


FRONT ELEVATION



REAR ELEVATION

PLAN • "3"



REAR ELEVATION

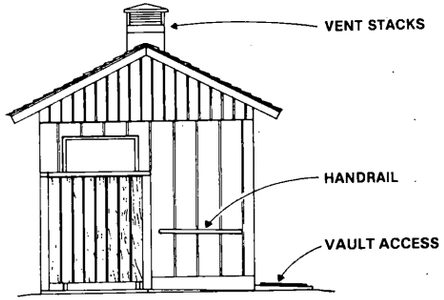
Two Unit Flush Toilet
Wood Exterior & Bloc': _xt_rior D_ ign

1 of 1

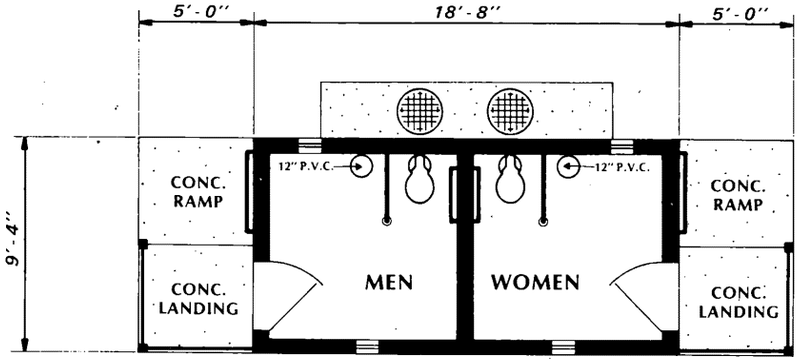
R-4

☐ Details Complete
Details Incomplete

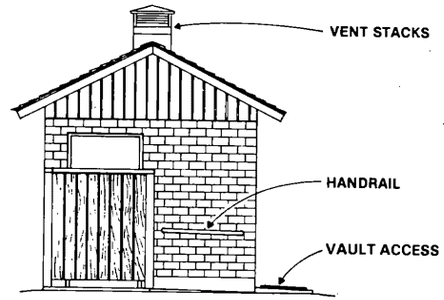
Forest Service - USDA



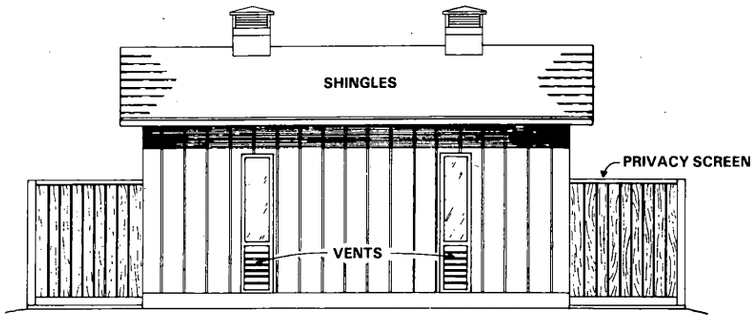
END ELEVATION



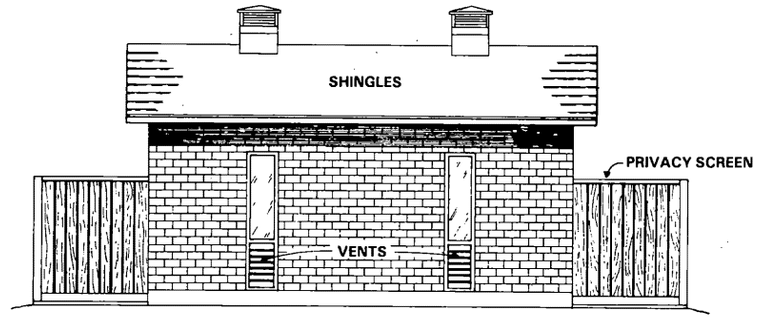
PLAN • "6"



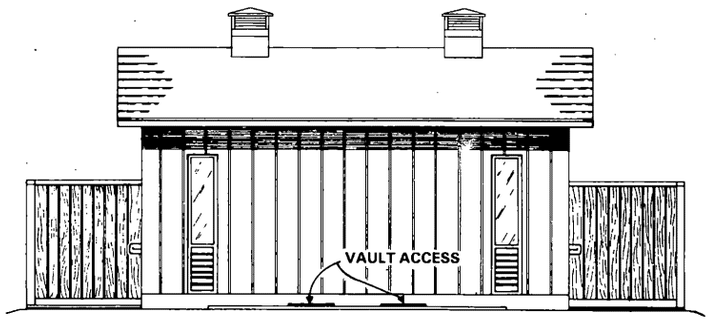
END ELEVATION



FRONT ELEVATION

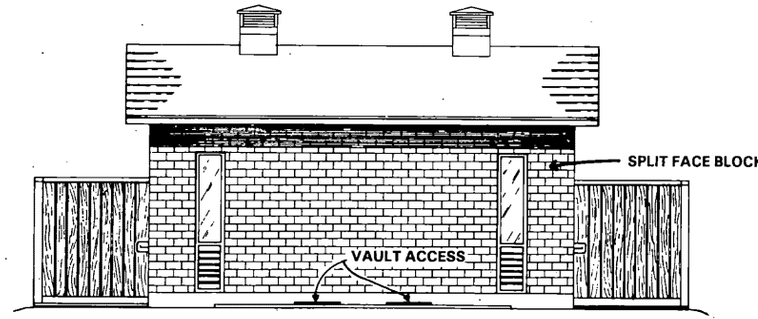


FRONT ELEVATION



REAR ELEVATION

NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGID VINYL.



REAR ELEVATION

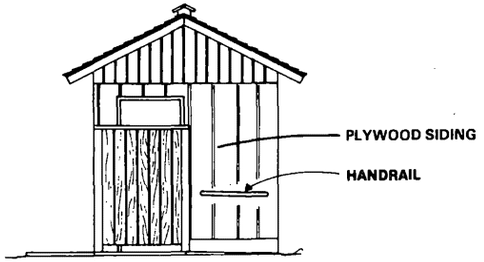
Two Unit Mini - Flush Toilet Wood Exterior & Bloc[illegible]_xt_rior D_ ign

1 of 1

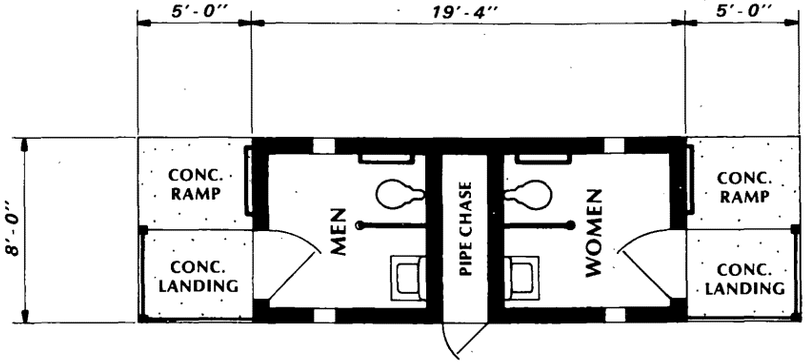
R-4

☐ Details Complete
Details Incomplete

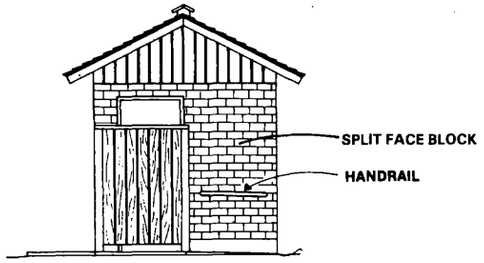
Forest Service · USDA



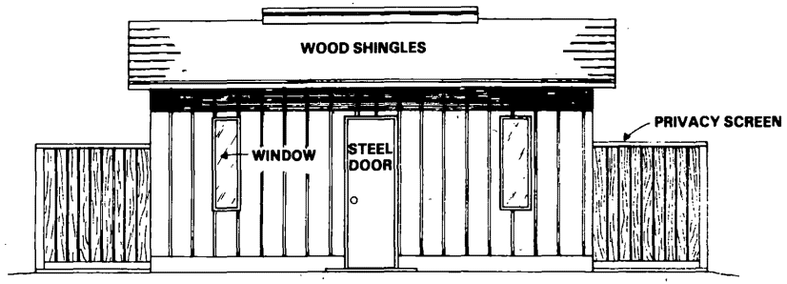
END ELEVATION



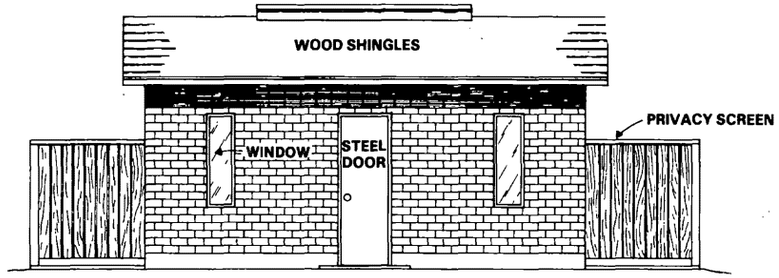
PLAN • "4"



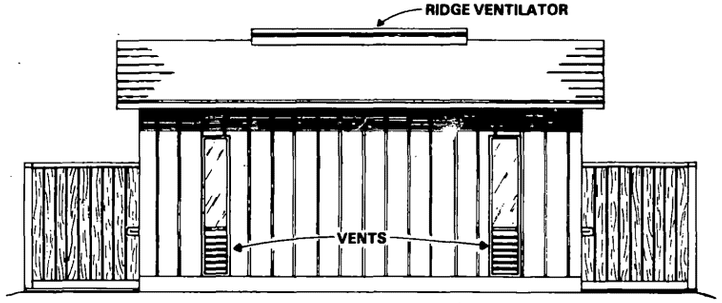
END ELEVATION



FRONT ELEVATION

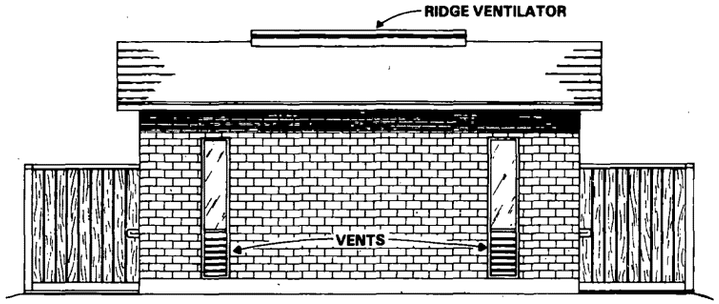


FRONT ELEVATION



REAR ELEVATION

NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGID VINYL.



REAR ELEVATION

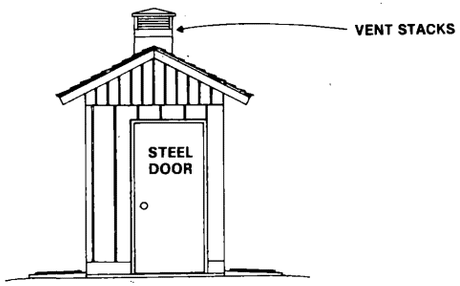
Two Unit Flush Toilet Wood Exterior & Bloc_ _xt rior D_ ign

1 of 1

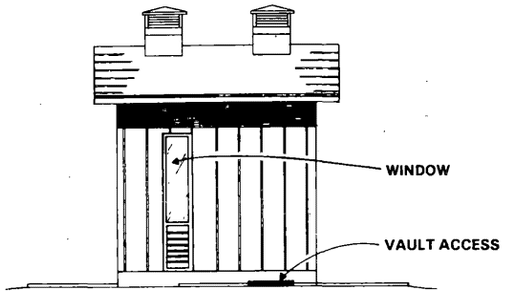
R-4

☐ Details Complete
Details Incomplete

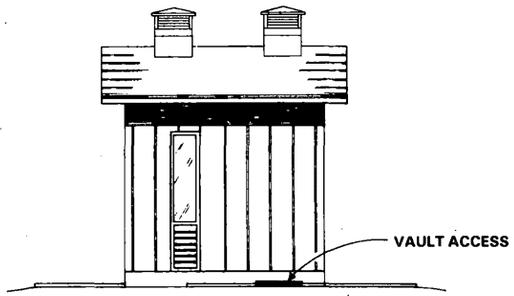
Forest Service · USDA



END ELEVATION

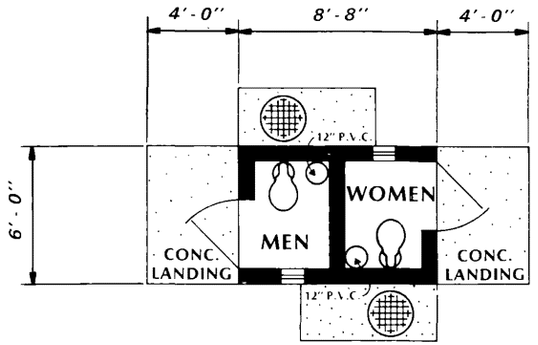


FRONT ELEVATION

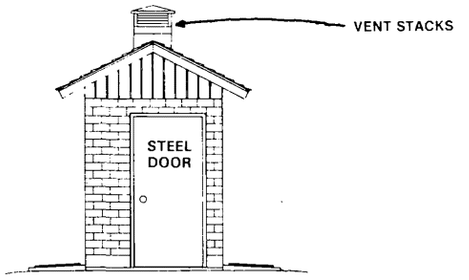


REAR ELEVATION

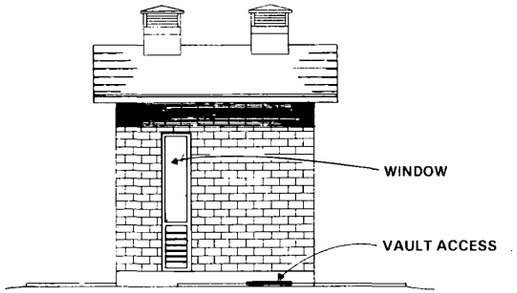
NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGID VINYL.



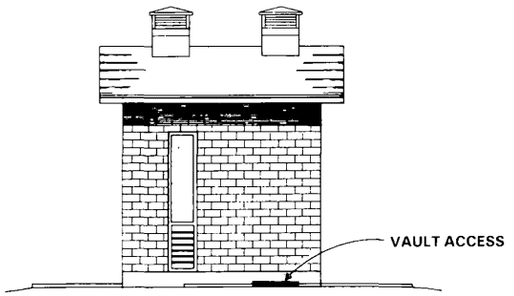
PLAN • "5"



END ELEVATION



FRONT ELEVATION



REAR ELEVATION

Two Unit Mini - Flush Toilet Wood Exterior & Bloc_ _xt_rior D_ ign

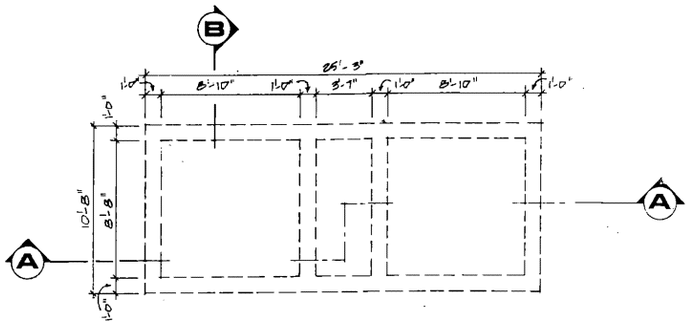
1 of 1

R-4

☐ Details Complete
Details Incomplete

Forest Service • USDA

Two Unit Flush Toilet
Concrete Block With Wood Exterior



FOUNDATION PLAN
SCALE: 1/4" = 1'-0"

Door & Hardware Schedule

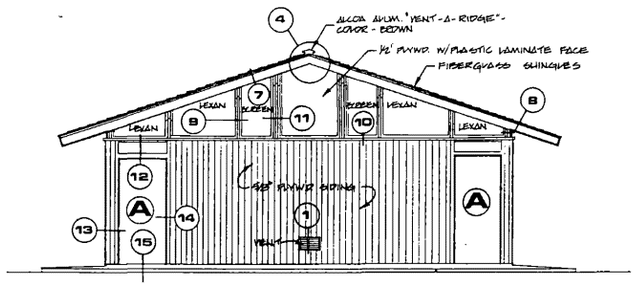
NO.	SIZE	TYPE	PUSH PLATE	PULL PLATE	LOCK	KICKPLATE	HINGES	CLOSER	THRESHOLD	REMARKS
A	3'-0" x 6'-8" x 1 3/4"	FLUSH SOLID CORE WOOD DOOR	#51, 3 1/2" x 14" BRONZE BY BURNS MANF. INC.	#1355D, 3 1/2" x 14" BRONZE BY BURNS	YALE BY ANK KICKSET #324 FOR FD CYLINDER 1192 BRONZE	16 GA. BRONZE 12" x 34" BY BURNS OR EQUAL EA. DOOR	# FBB-199 4 1/2" x 4 1/2" 0-180 AA BRONZE 1 1/2 PAIR BY STANLEY OR EQUAL	#3016 1190 BY V.C.N	MARBLE (SEE DRAWINGS)	
B	3'-0" x 6'-8" x 1 3/4"		NONE			NONE		NONE	NONE	

Exterior Finish Schedule

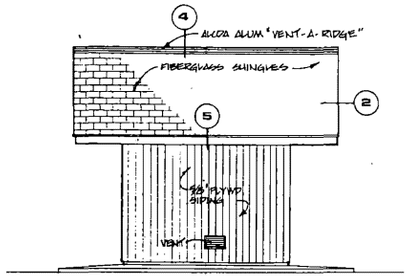
WALL		BEAMS		TRIM		SOFFIT		FASCIA		REMARKS
MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	
5/8" PLYWOOD	STAIN	WOOD	PAINT	WOOD	PAINT	GYP.-VAM DECK	STAIN	PRE-FIN ALUM	NONE	

Interior Finish Schedule

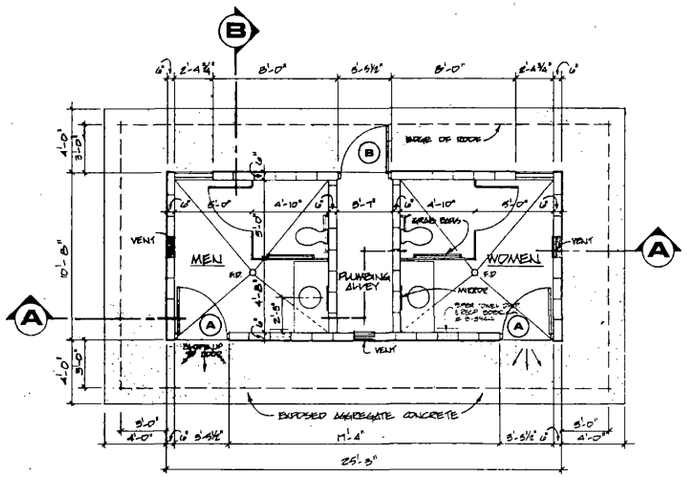
	FLOOR		WALL		CEILING		TRIM		REMARKS
	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	
TOILET	CERAMIC TILE	NONE	CONC BLOCK	PAT.-GLAZE BY FPG.	GYP.-VAM DECK	STAIN	WOOD	PAINT	
PLUMBING	4" GRAVEL BED	NONE							



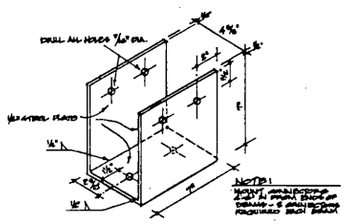
FRONT ELEVATION
SCALE: 1/4" = 1'-0"



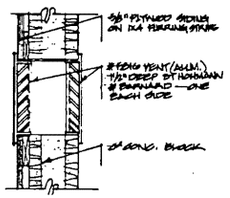
SIDE ELEVATION
SCALE: 1/4" = 1'-0"



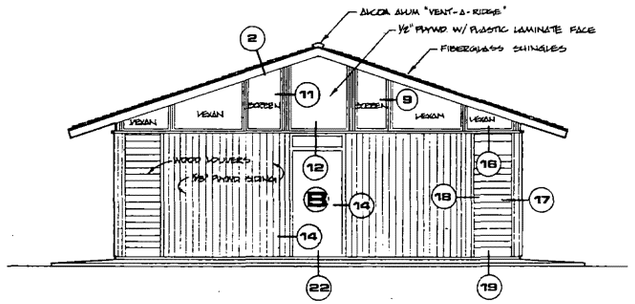
FLOOR PLAN
SCALE: 1/4" = 1'-0"



BEAM CONNECTOR
NO SCALE



1 VENT
SCALE: 1 1/2" = 1'-0"



REAR ELEVATION
SCALE: 1/4" = 1'-0"

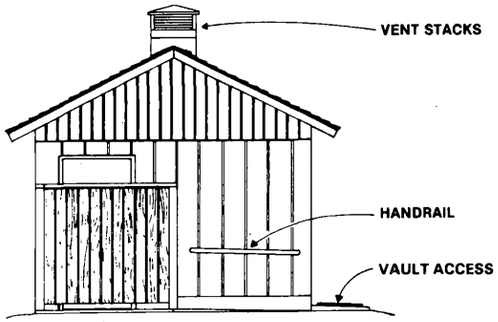
1 of 1

R-8
B-8110

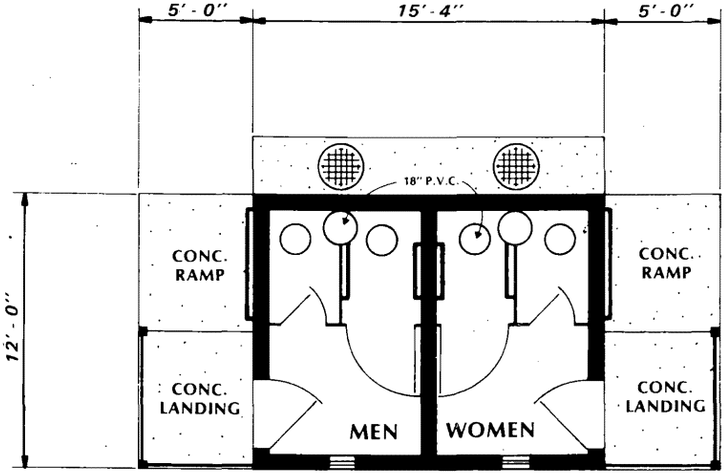
☐ Details Complete
■ Details Incomplete

Forest Service · USDA

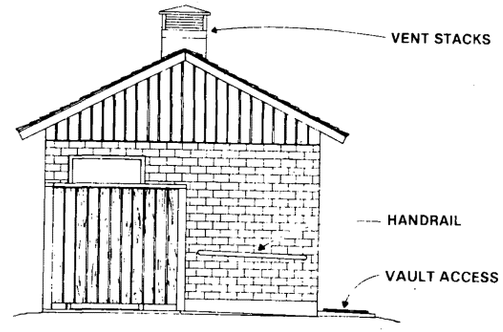
FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE



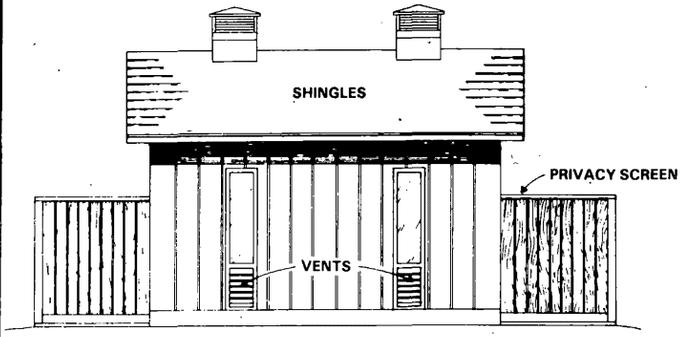
END ELEVATION



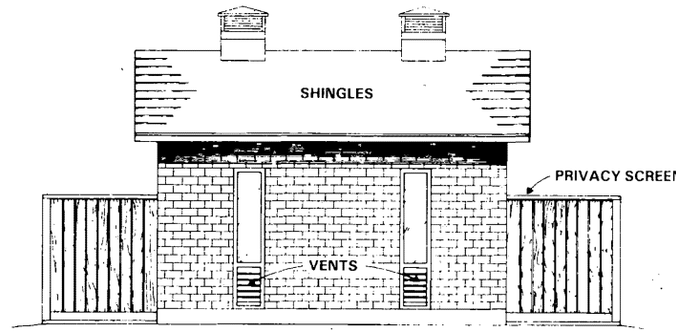
PLAN • "14"



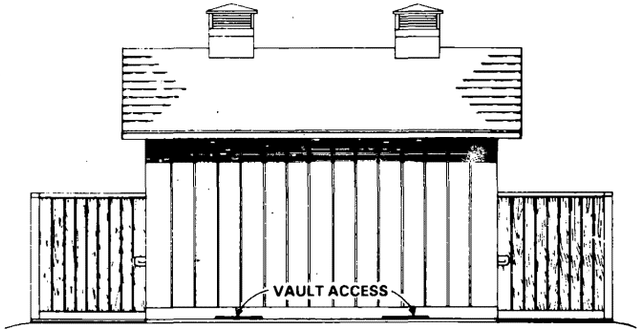
END ELEVATION



FRONT ELEVATION

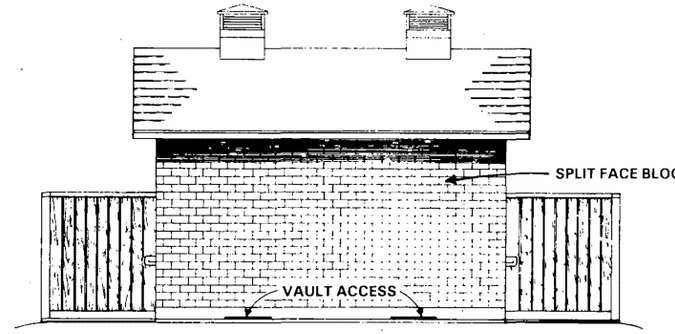


FRONT ELEVATION



REAR ELEVATION

NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGID VINYL.



REAR ELEVATION

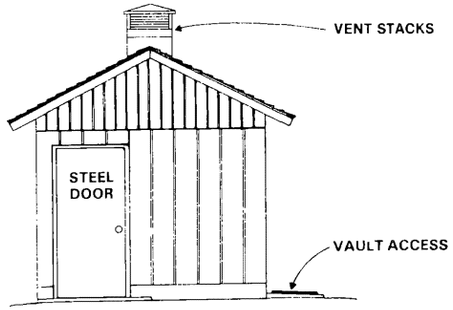
Four Unit Vault Toilet Wood Exterior & Bloc_ _xt_rior D_ ign

1 of 1

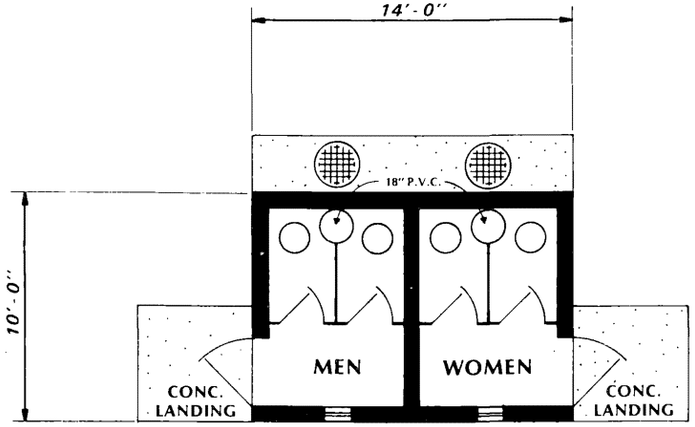
R-4

☐ Details Complete
Details Incomplete

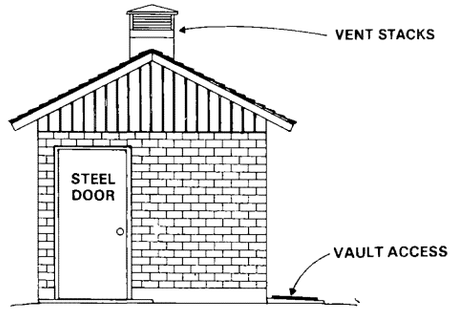
Forest Service • USDA



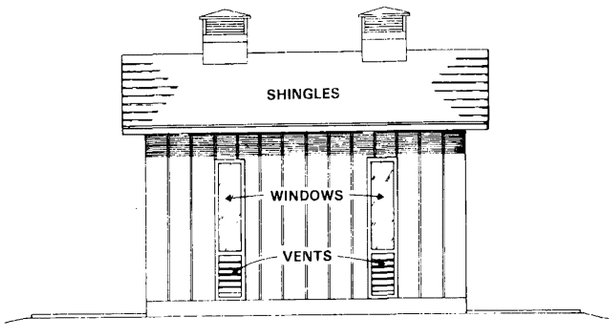
END ELEVATION



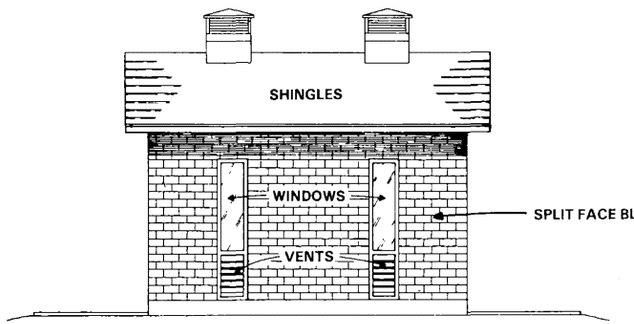
PLAN • "13"



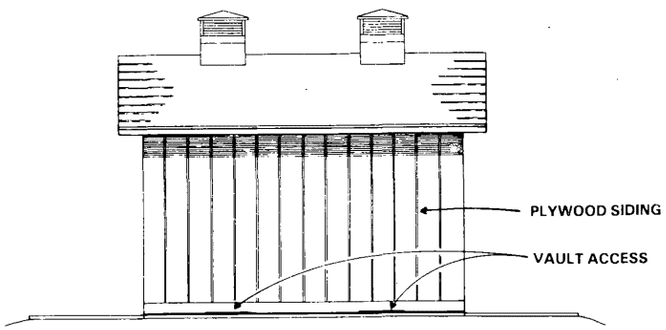
END ELEVATION



FRONT ELEVATION

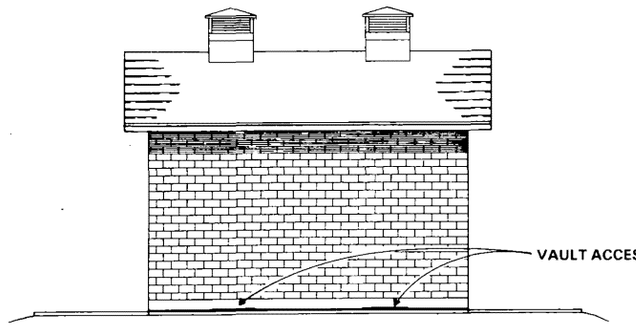


FRONT ELEVATION



REAR ELEVATION

NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGID VINYL.



REAR ELEVATION

Four Unit Vault Toilet

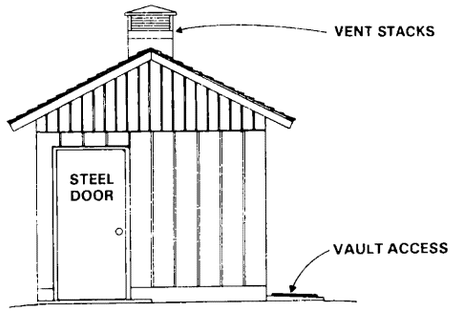
Wood Exterior & Bloc_ _xt_rior D_ ign

1 of 1

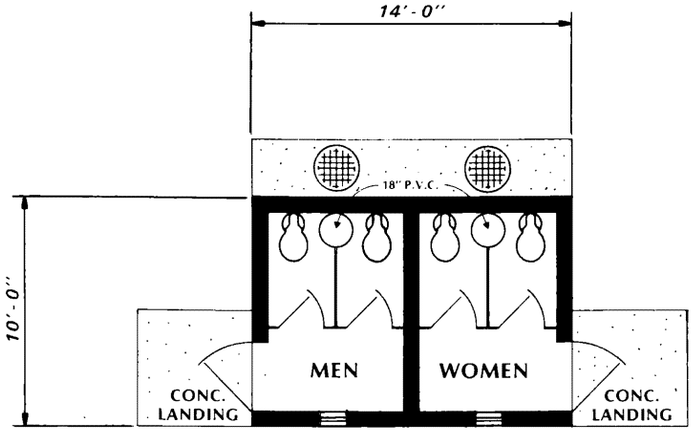
R-4

☐ Details Complete
Details Incomplete

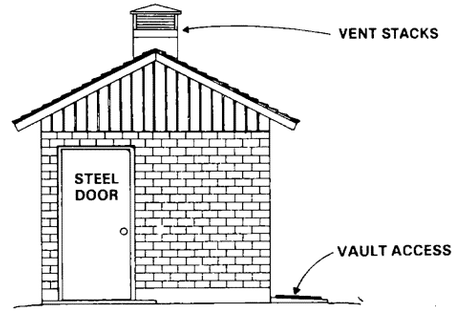
Forest Service · USDA



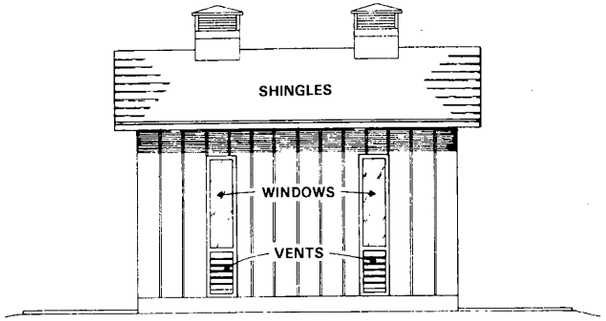
END ELEVATION



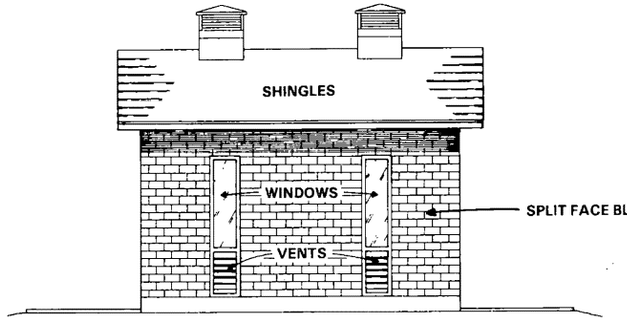
PLAN • "11"



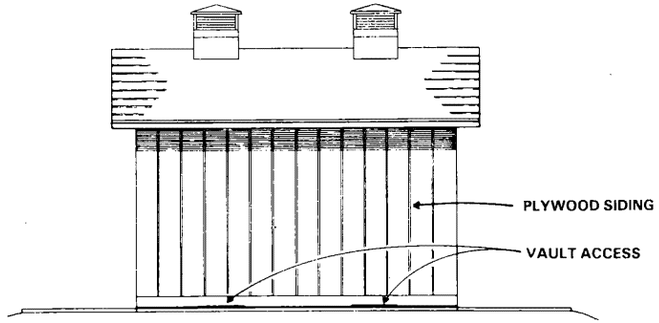
END ELEVATION



FRONT ELEVATION

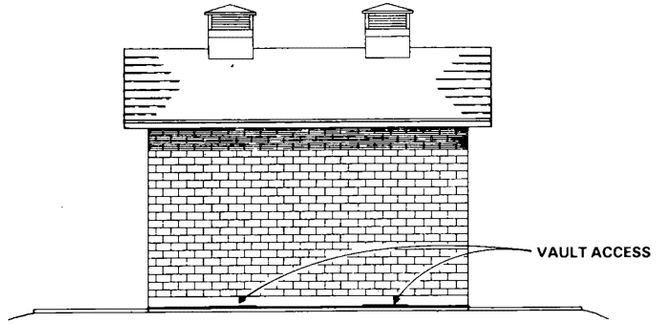


FRONT ELEVATION



REAR ELEVATION

NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGID VINYL.



REAR ELEVATION

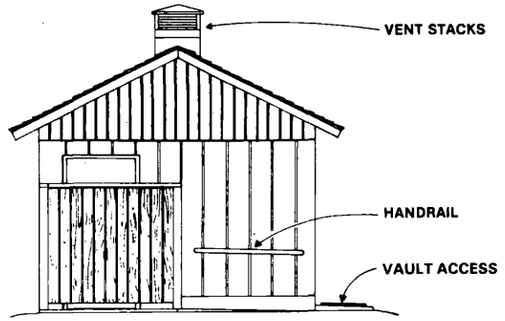
Four Unit Mini - Flush Toilet Wood Exterior & Bloc_ _xt_rior D_ ign

1 of 1

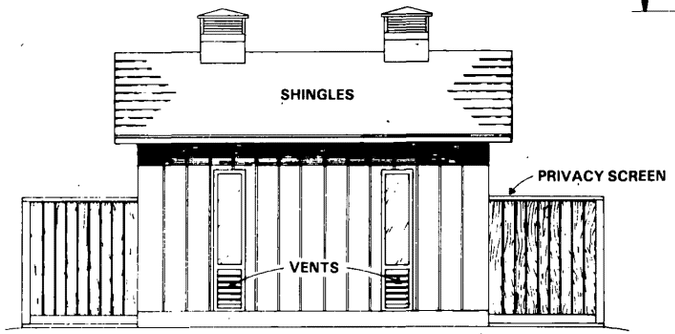
R-4

☐ Details Complete
Details Incomplete

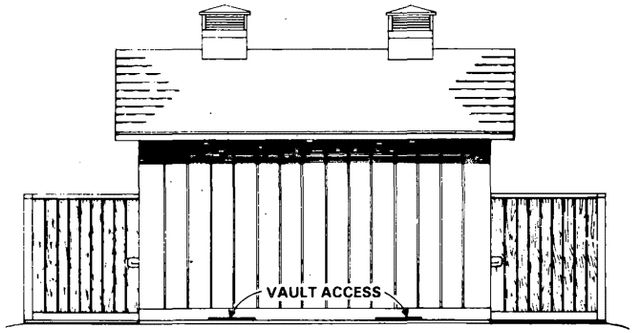
Forest Service · USDA



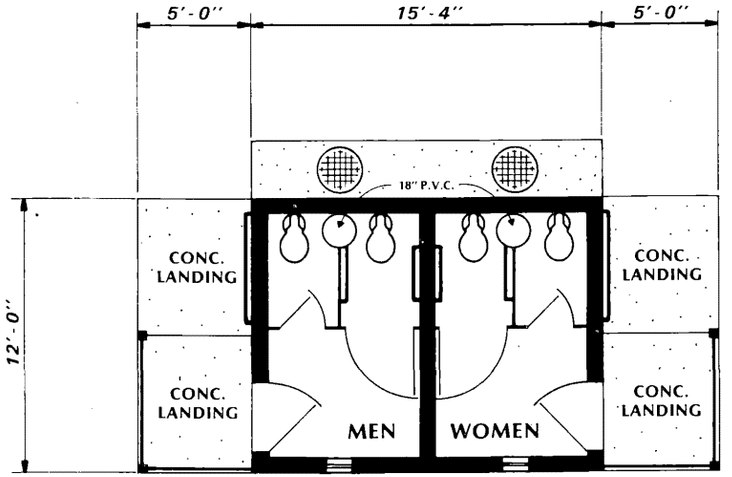
END ELEVATION



FRONT ELEVATION

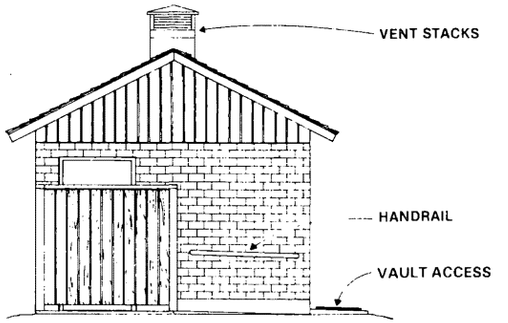


REAR ELEVATION

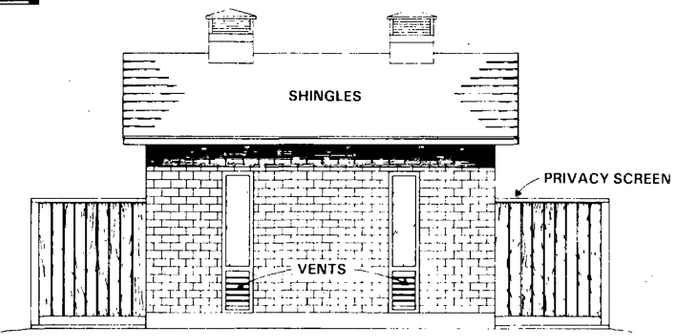


PLAN • "12"

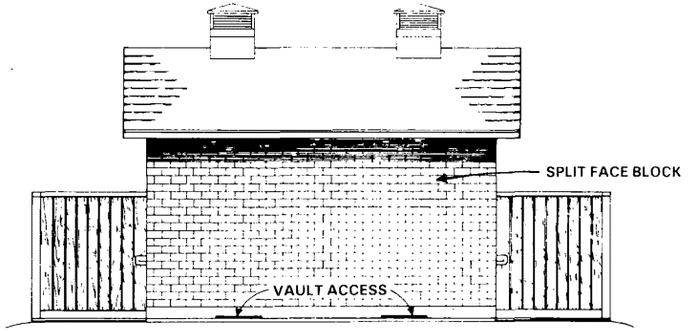
NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGID VINYL.



END ELEVATION



FRONT ELEVATION



REAR ELEVATION

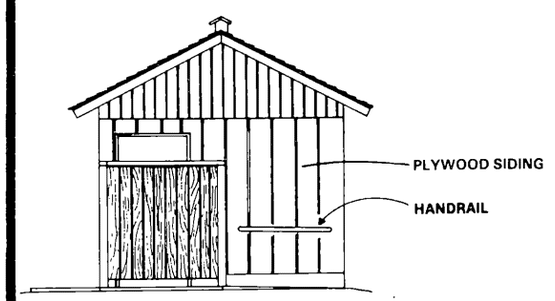
Four Unit Mini - Flush Toilet Wood Exterior & Block Exterior Design

1 of 1

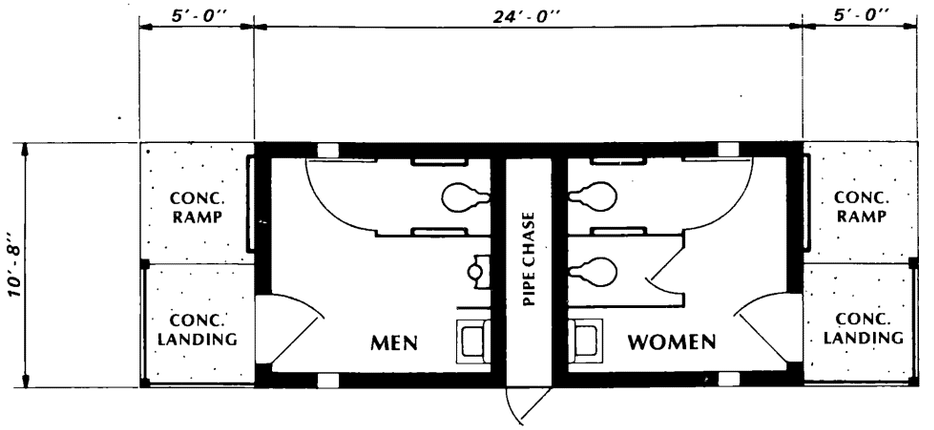
R-4

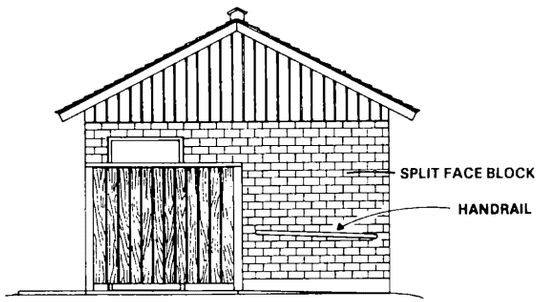
☐ Details Complete
Details Incomplete

Forest Service · USDA



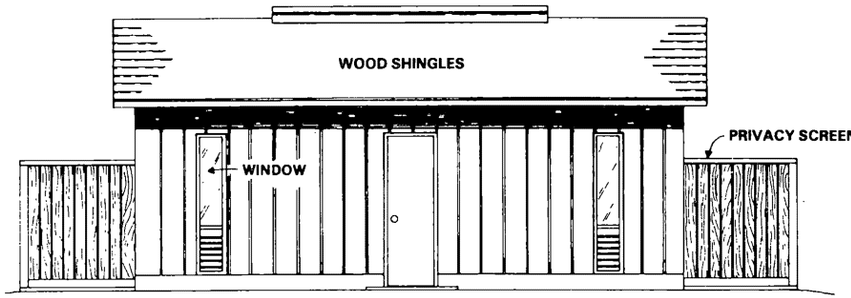
END ELEVATION



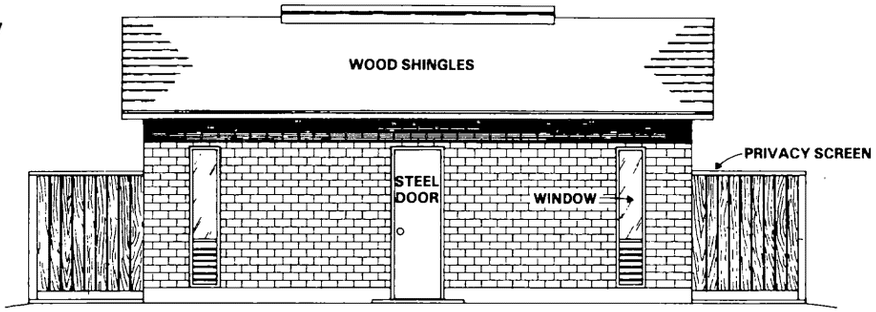


END ELEVATION

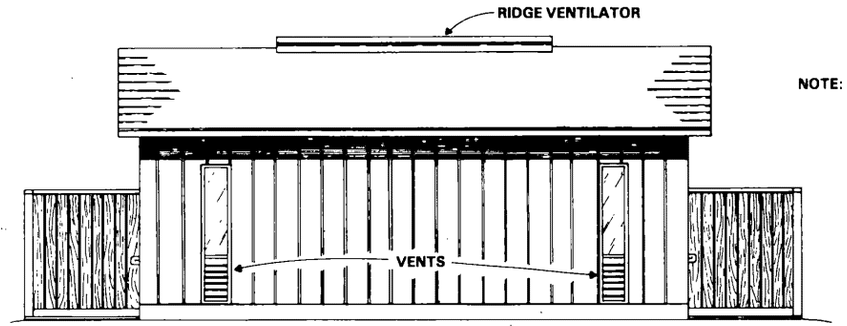
PLAN • "10"



FRONT ELEVATION

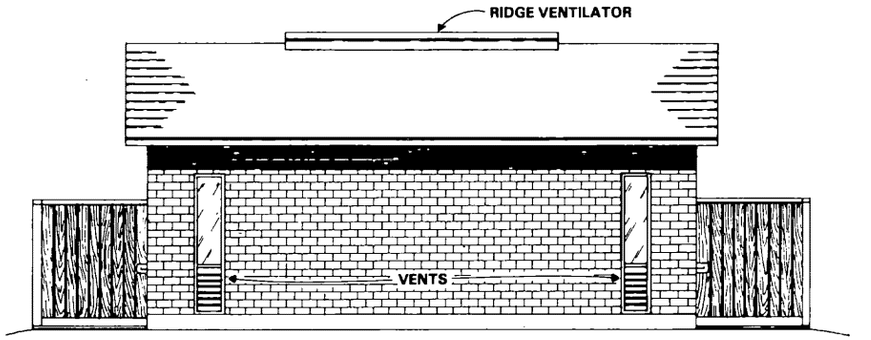


FRONT ELEVATION



REAR ELEVATION

NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGID VINYL.



REAR ELEVATION

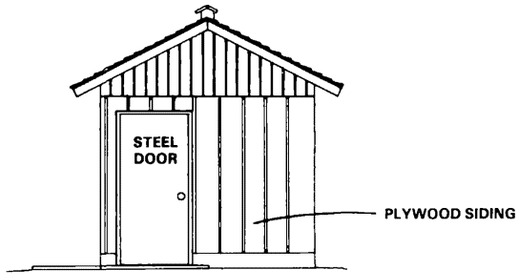
Four Unit Flush Toilet Wood Exterior & Bloc_ _xt_rior D_ ign

1 of 1

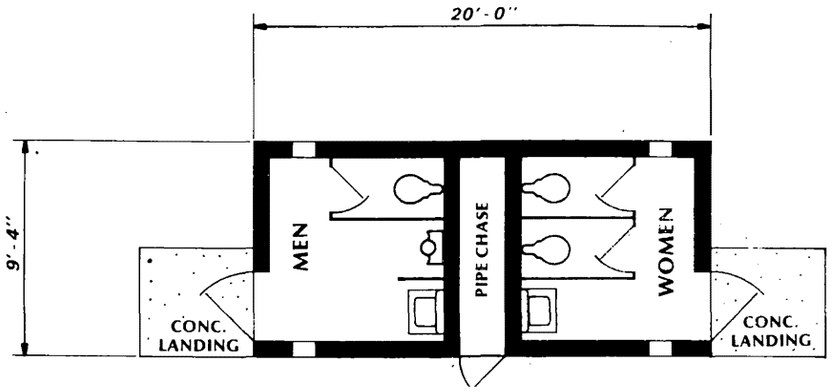
R-4

☐ Details Complete
Details Incomplete

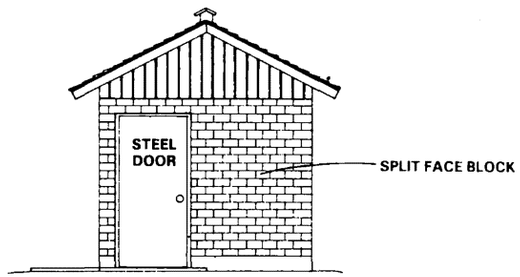
Forest Service • USDA



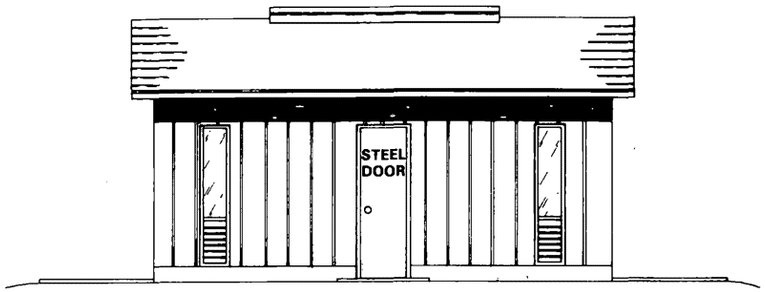
END ELEVATION



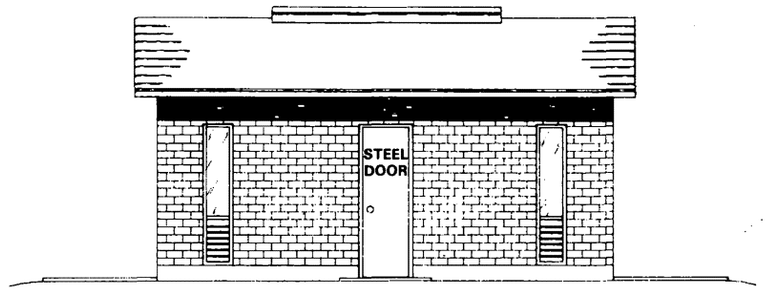
PLAN • "9"



END ELEVATION

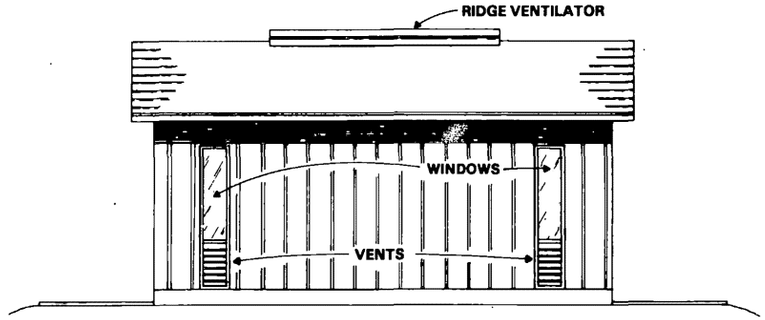


FRONT ELEVATION

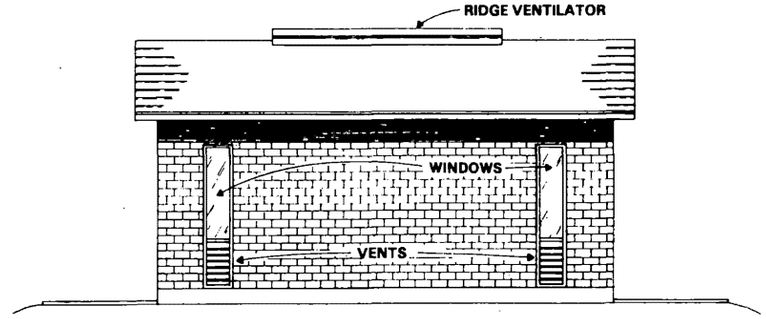


FRONT ELEVATION

NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGID VINYL.



REAR ELEVATION



REAR ELEVATION

Four Unit Flush Toilet

Wood Exterior & Bloc_ _xt_rior D_ ign

1 of 1

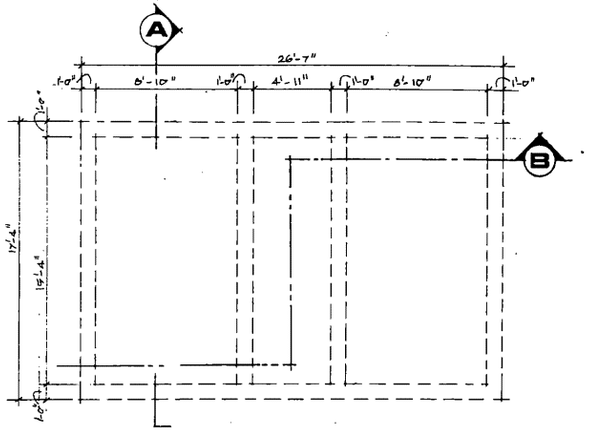
R-4

☐ Details Complete
Details Incomplete

Forest Service · USDA

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Four Unit Flush Toilet With Showers: Block With Wood Exterior



FOUNDATION PLAN

SCALE 1/16" = 1'-0"

Door & Hardware Schedule

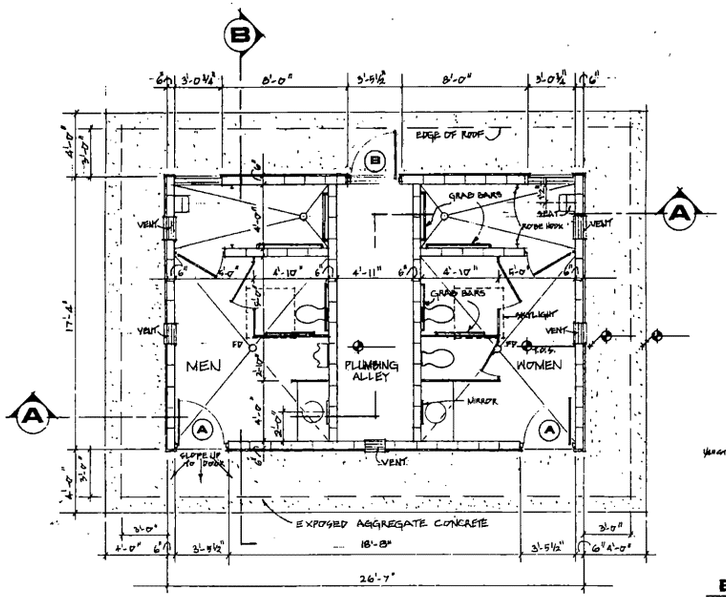
NO.	SIZE	TYPE	FLUSH PLATE	FULL PLATE	LOCK	KICKPLATE	MINGES	CLOSER	THRESHOLD	REMARKS
A	3'-0" x 6'-8" x 1 3/4"	FLUSH SOLID CORE WOOD DOOR	#81, 3½" x 16" BRONZE BY BURNS MANF. CO.	#S1558, 5½" x 16" BRONZE BY BURNS	VALE BLANK LOCKSET # 324 FOR P.P. CYLINDER BRONZE	16" BRONZE 12" BY 34" BY BURNS OR EQUAL B/DOOR	4" PBB-199 4½" x 4½" 0.180 GAUGE BRONZE 1½ PAIR BY STANLEY OR EQUAL	# 4015 H90 BY L.C.N.	MARBLE (SEE DRAWING)	
B	3'-0" x 6'-8" x 1 3/4"		NONE			NONE		NONE	NONE	

Exterior Finish Schedule

WALL		BEAMS		TRIM		SOFFIT		FASCIA		REMARKS
MATERIALS	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	
5/8" PLYWOOD	STAIN	WOOD	PAINT	WOOD	PAINT	GLU-LAM DECK	STAIN	PRE-FIN. ALUM.	NONE	

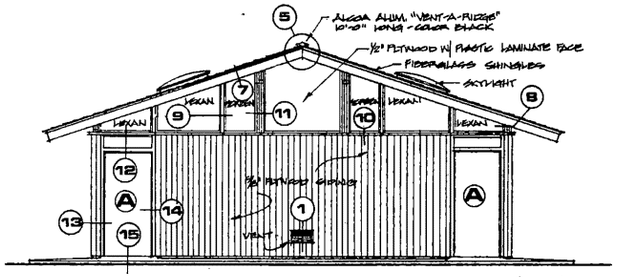
Interior Finish Schedule

	FLOOR		WALL		CEILING		TRIM		REMARKS
	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	
TOILETS	CERAMIC TILE	NONE	CONC. BLOCK	PITT-GLAZE ON F.F.G.	GLU-LAM DECK	STAIN	WOOD	PAINT	
PLUMBING	4" GRAVEL BED	NONE	CONC. BLOCK	NONE	GLU-LAM DECK	STAIN	WOOD	PAINT	



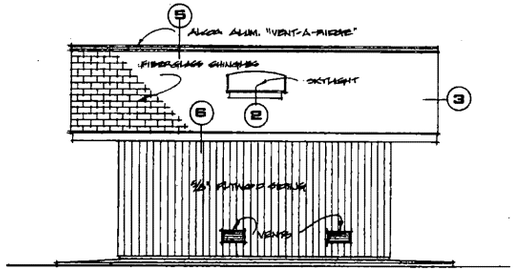
FLOOR PLAN

SCALE 1/4" = 1'-0"



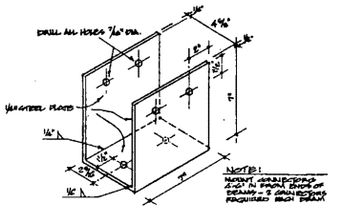
FRONT ELEVATION

SCALE 1/4" = 1'-0"



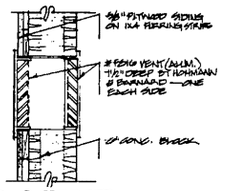
SIDE ELEVATION

SCALE 1/4" = 1'-0"



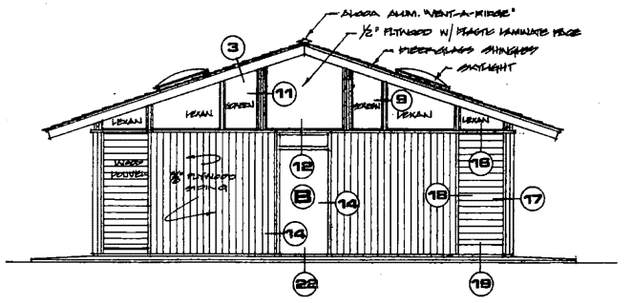
BEAM CONNECTOR

NO SCALE



1 VENT

SCALE 1½" = 1'-0"



REAR ELEVATION

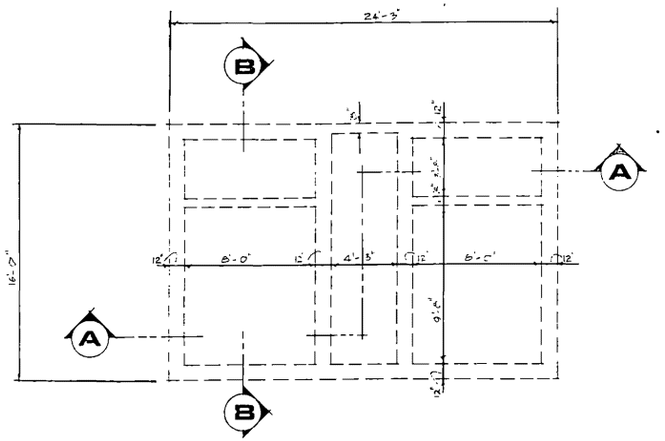
SCALE 1/4" = 1'-0"

Forest Service - USDA

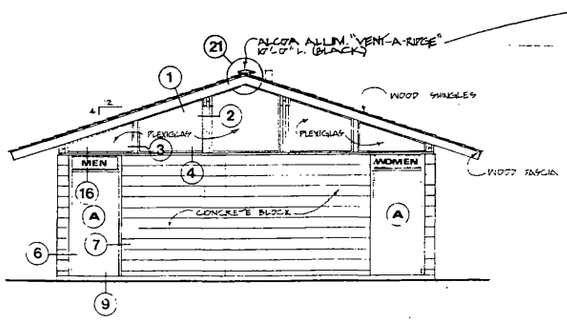
1 of 1

R-8
B-8102

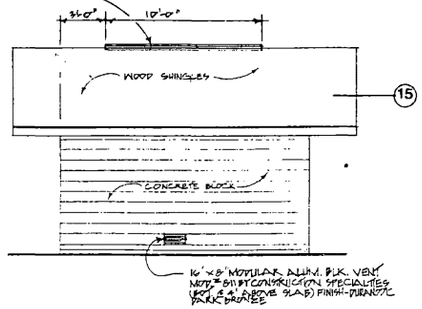
- ☐ Details Complete
- ■ Details Incomplete



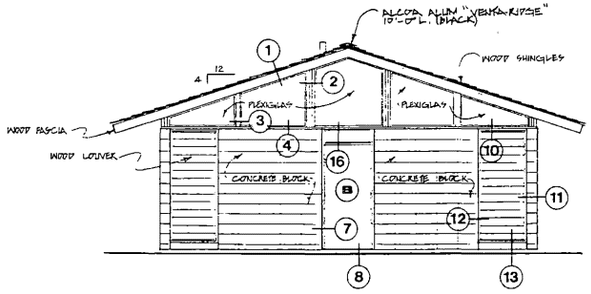
foundation plan
SCALE: 1/4" = 1'-0"



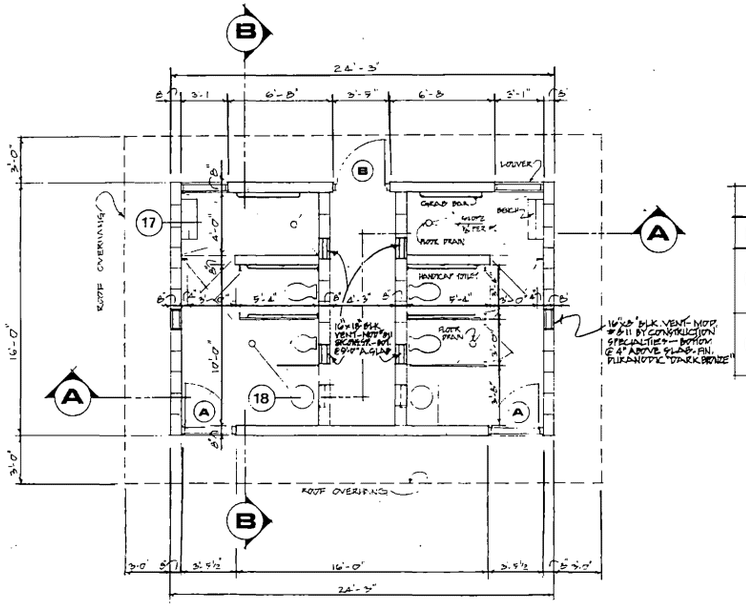
front elevation
SCALE: 1/4" = 1'-0"


3'-0"
10'-0"
WOOD SHINGLES
CONCRETE BLOCK
16" x 8" MODULAR ALUM. BLK. VENT MOD. #511 BY CONSTRUCTION SPECIALITIES (60" c.c. ABOVE SLAB) FINISH-DURANODIC DARK BRONZE

side elevation - typ.
SCALE: 1/4" = 1'-0"



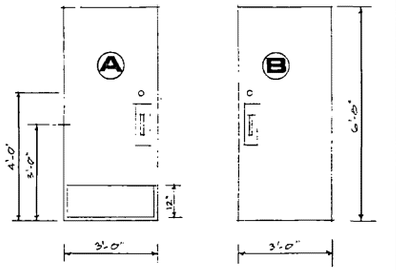
rear elevation
SCALE: 1/4" = 1'-0"



floor plan
SCALE: 1/4" = 1'-0"

door & hardware schedule

NO	SIZE	TYPE	PUSH PLATE	PULL PLATE	LOCK	KICK PLATE	HINGES	CLOSER	THRESHOLD	REMARKS
A	3'-0"x6'-8"x1 3/4"	FLUSH, SOLID CORE, WOOD DOOR	ROCKFORD #116 16 x 4" BRONZE BY RUSSWIN OR EQUAL	ROCKFORD #620-16 x 3 1/2" BRONZE BY RUSSWIN OR EQUAL	YALE BLANK LOCK #8754-26 FOR F9 CYLINDER # 1192 BRONZE FINISH	#114 BRONZE 12"x34" BY RUSSWIN OR EQUAL. 2 PER DOOR	#FBB 191 4½" x 4½" .134 GAUGE BRONZE 1½ PAIR BY STANLEY OR EQUAL	#600-A-60 ARM 600-4 PSH. #25 CORNER BRACKET BY RUSSWIN OR EQUAL	MOVABLE (SEE PLANNING)	
B	3'-0"x6'-8"x1 3/4"	FLUSH, SOLID CORE WOOD DOOR	NONE	ROCKFORD #620-16 x 3 1/2" BRONZE BY RUSSWIN OR EQUAL	YALE BLANK LOCK #8754-26 FOR F9 CYLINDER # 1192 BRONZE FINISH	NONE	#FBB 191 4½" x 4½" .134 GAUGE BRONZE 1½ PAIR BY STANLEY OR EQUAL	NONE	NONE	



doors

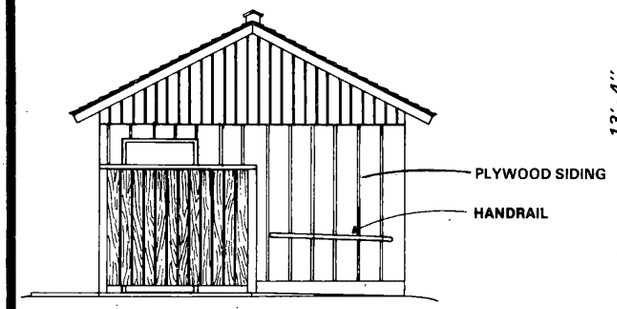
Four Unit Flush Toilet With Showers & Block Exterior

1 of 1

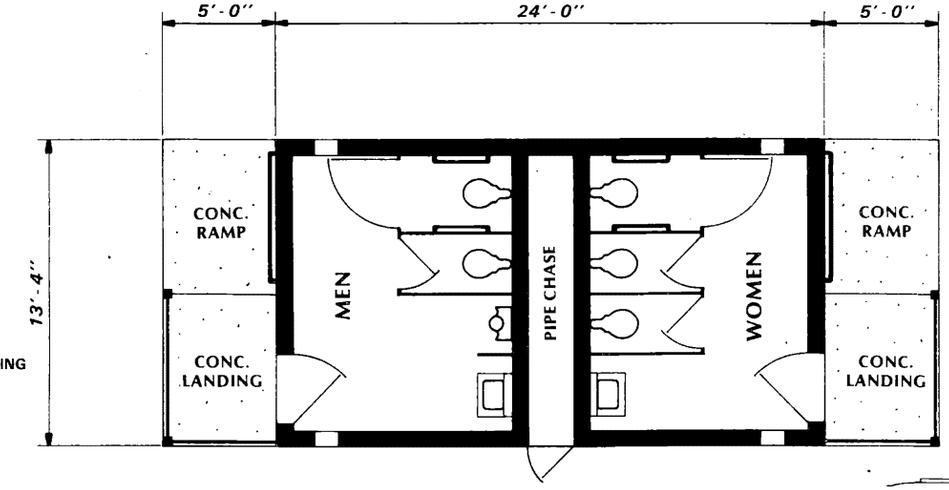
R-8
B-7412

☐ Details Complete
■ Details Incomplete

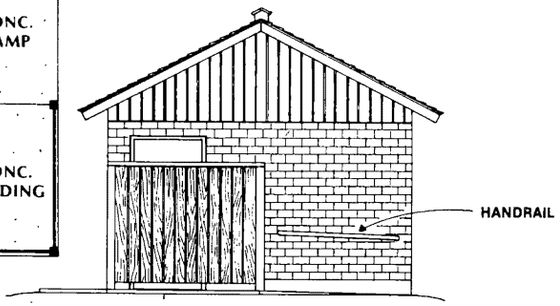
Forest Service · USDA



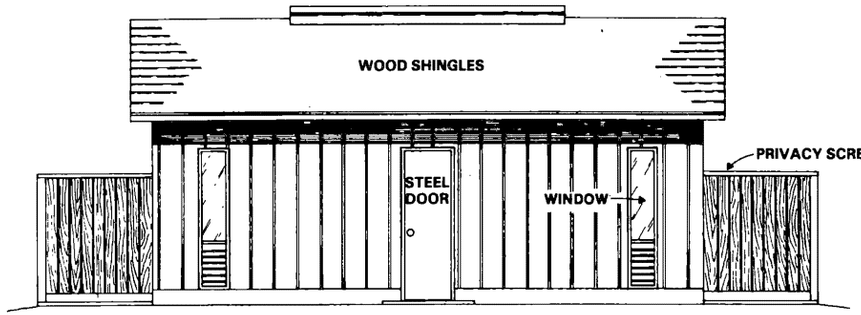
END ELEVATION



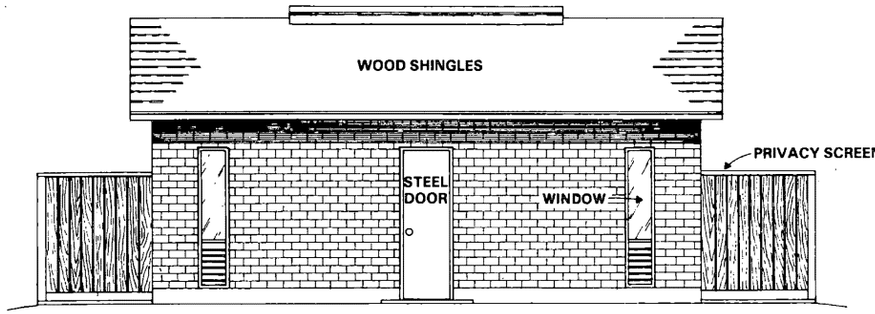
PLAN • "16"



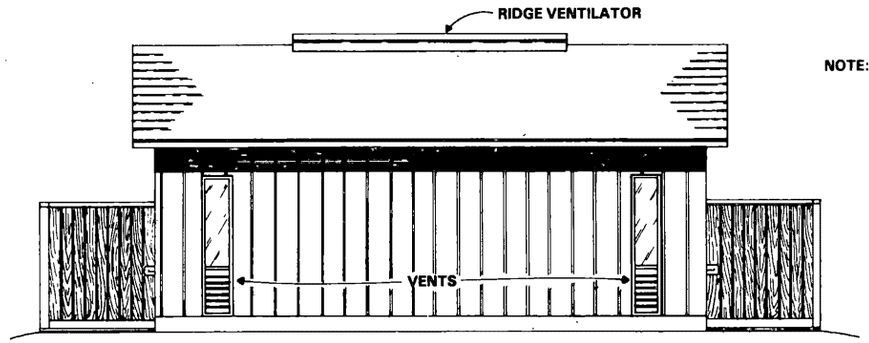
END ELEVATION



FRONT ELEVATION

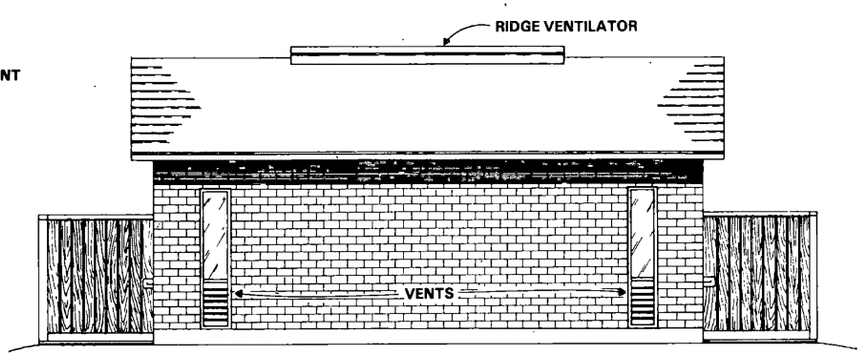


FRONT ELEVATION



REAR ELEVATION

NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGID VINYL.



REAR ELEVATION

Six Unit Flush Toilet Wood Exterior & Block Exterior Designs

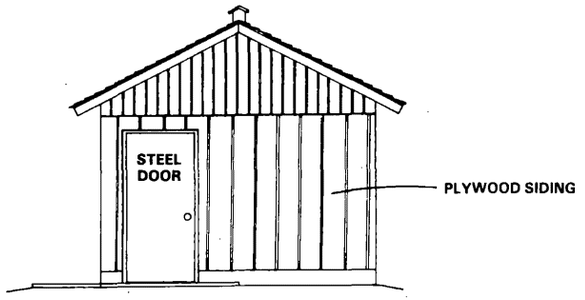
1 of 1

R-4

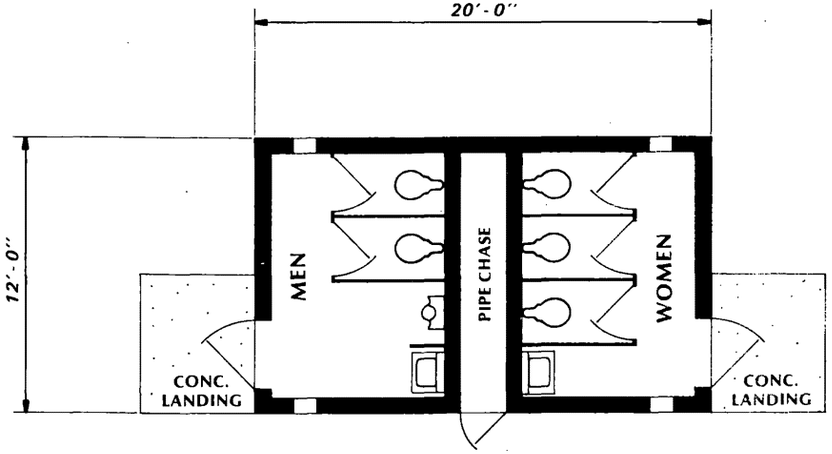
☐ Details Complete
■ Details Incomplete

Forest Service • USDA

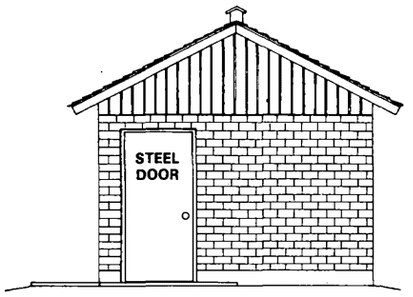
FOREST SERVICE
U.S.
DEPARTMENT OF AGRICULTURE



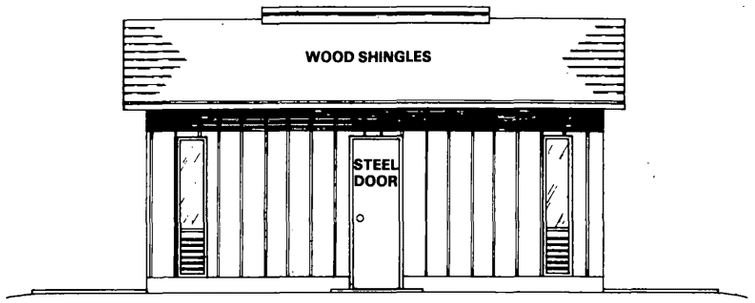
END ELEVATION



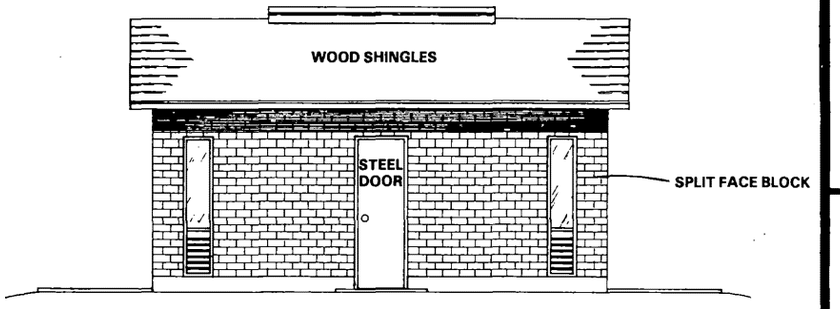
PLAN • "15"



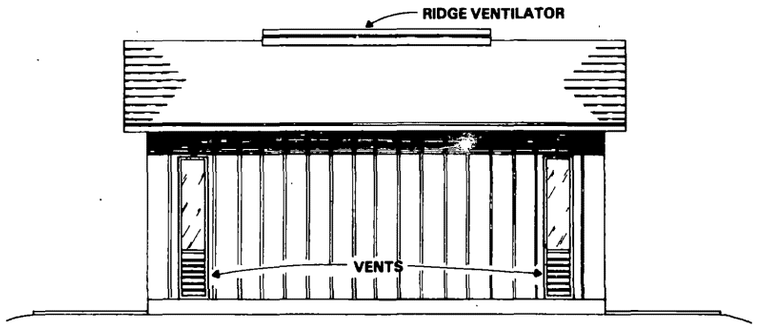
END ELEVATION



FRONT ELEVATION

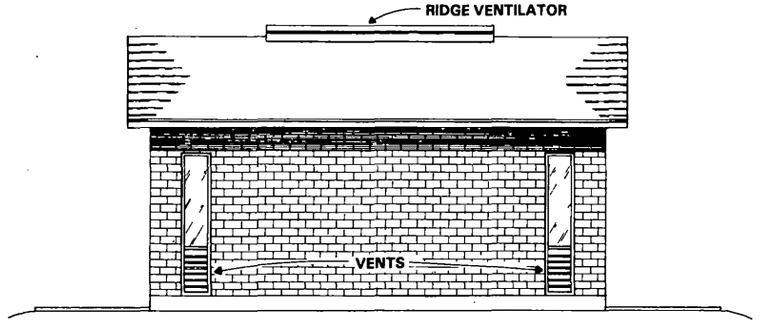


FRONT ELEVATION



REAR ELEVATION

NOTE: ALL WINDOWS ARE TRANSLUCENT REINFORCED RIGID VINYL.



REAR ELEVATION

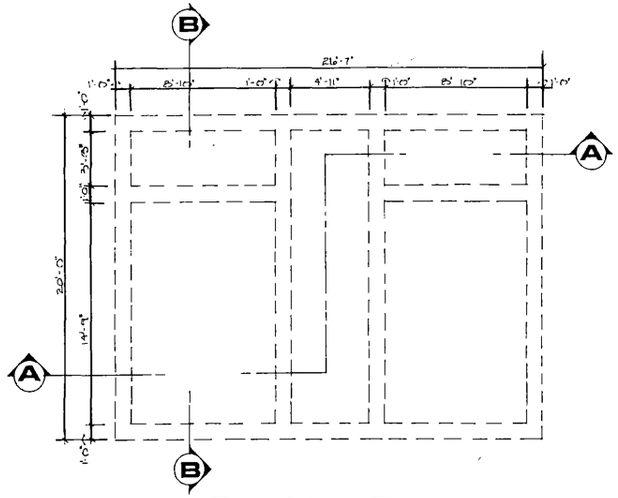
Six Unit Flush Toilet
Wood Exterior & Block Exterior Designs

1 of 1

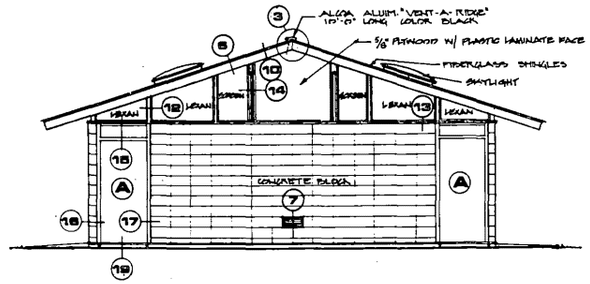
R-4

☐ Details Complete
■ Details Incomplete

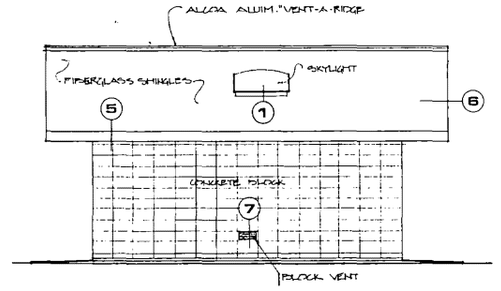
Forest Service • USDA



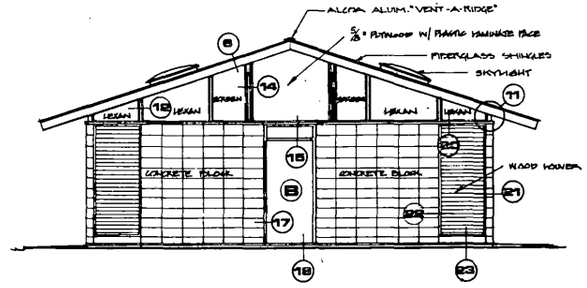
Foundation Plan
SCALE 1/4" = 1'-0"



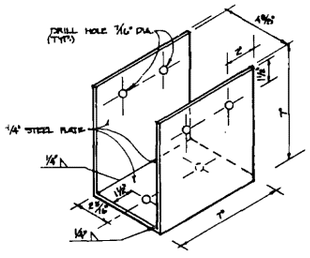
Front Elevation
SCALE 1/4" = 1'-0"



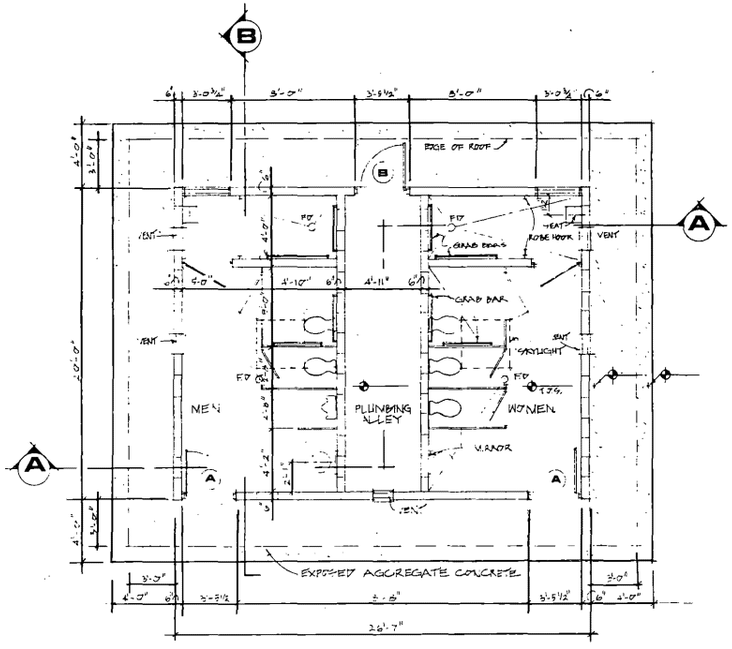
Side Elevation
SCALE 1/4" = 1'-0"



Rear Elevation
SCALE 1/4" = 1'-0"



Beam Connector
NO SCALE



Floor Plan
SCALE 1/4" = 1'-0"

Door & Hardware Schedule

NO.	SIZE	TYPE	FLUSH PLATE	PULL PLATE	LOCK	KICKPLATE	HINGES	CLOSER	THRESHOLD	REMARKS
A	3'-0" x 6'-8" x 1 3/4"	FLUSH SOLID CORE WOOD DOOR	#91 3 1/2" x 16" BRONZE BY BURNS MANF. INC.	#9156, 5 1/2" x 16" BRONZE BY BURNS	YALE BLANK LOCKSET # 804 FOR F.D. OR HOOVER 1192 DOORS FINISH	16 GA. BRONZE 12" x 34" BY BURNS OR EQUAL 8/DOOR	8 FBB-199 4 1/2" x 4 1/2" OR 10 GAUGE BRONZE 1192 BASE BY STOKES OR EQUAL.	# 4011 # 90 BY LCN	MARBLE (SEE DRAWING)	
B	3'-0" x 6'-8" x 1 3/4"	↓	NONE	↓	↓	NONE	↓	NONE	NONE	DOOR HAS ALUM. WEATHER STOP "S" BY ZERO

Interior Finish Schedule

ROOM	FLOOR		WALL		CEILING		TRIM		REMARKS
	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	
TOILET & SHOWER SPACES	CERAMIC TILE	NONE	CONC. BLOCK	FIT-GLAZE BY P.P.G.	GLU - LAM DECK	STAIN	WOOD	PAINT	
PLUMBING ALLEY	4" GRAVEL BED	NONE	CONC. BLOCK	NONE	GLU - LAM DECK	STAIN	WOOD	PAINT	

Exterior Finish Schedule

WALL		BEAMS		TRIM		SOFFIT		FASCIA		REMARKS
MATERIALS	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	
CONC. BLOCK	PAINT	WOOD	PAINT	WOOD	PAINT	GLU - LAM DECK	STAIN	PRE-FIN. ALUM.	NONE	

Six Unit Flush Toilet With Showers & Block Exterior

1 of 1

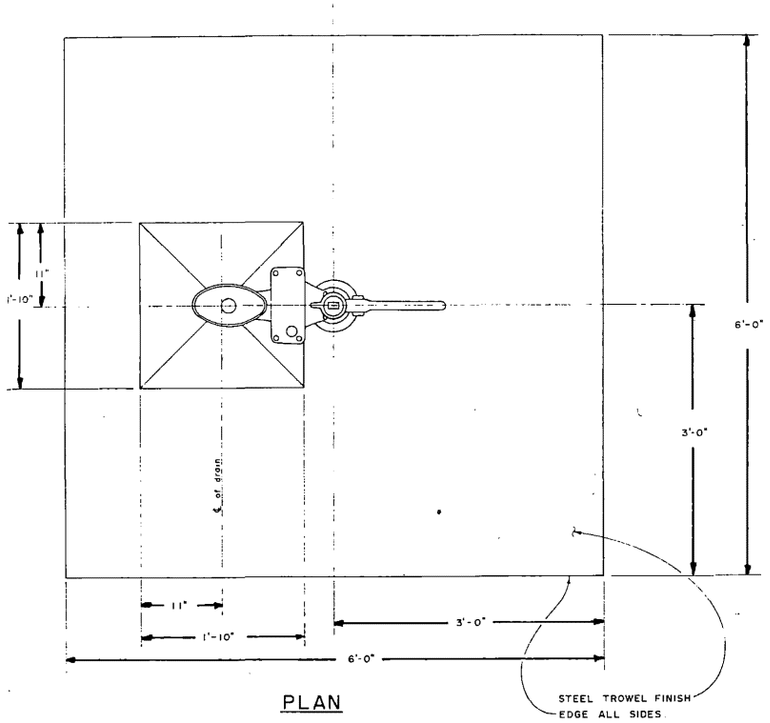
R-8
B-8101

□ Details Complete
■ Details Incomplete

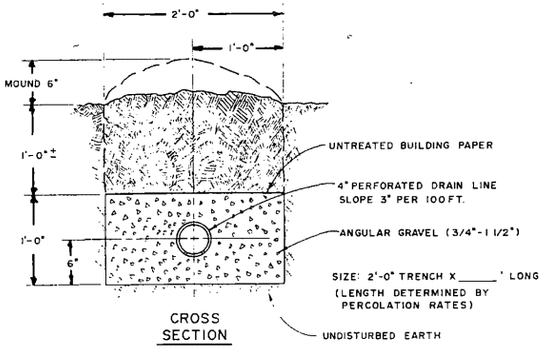
Forest Service · USDA

FOREST SERVICE · USDA · DEPARTMENT OF AGRICULTURE

Drinking Fountain – Handpump Type Over Drilled Well



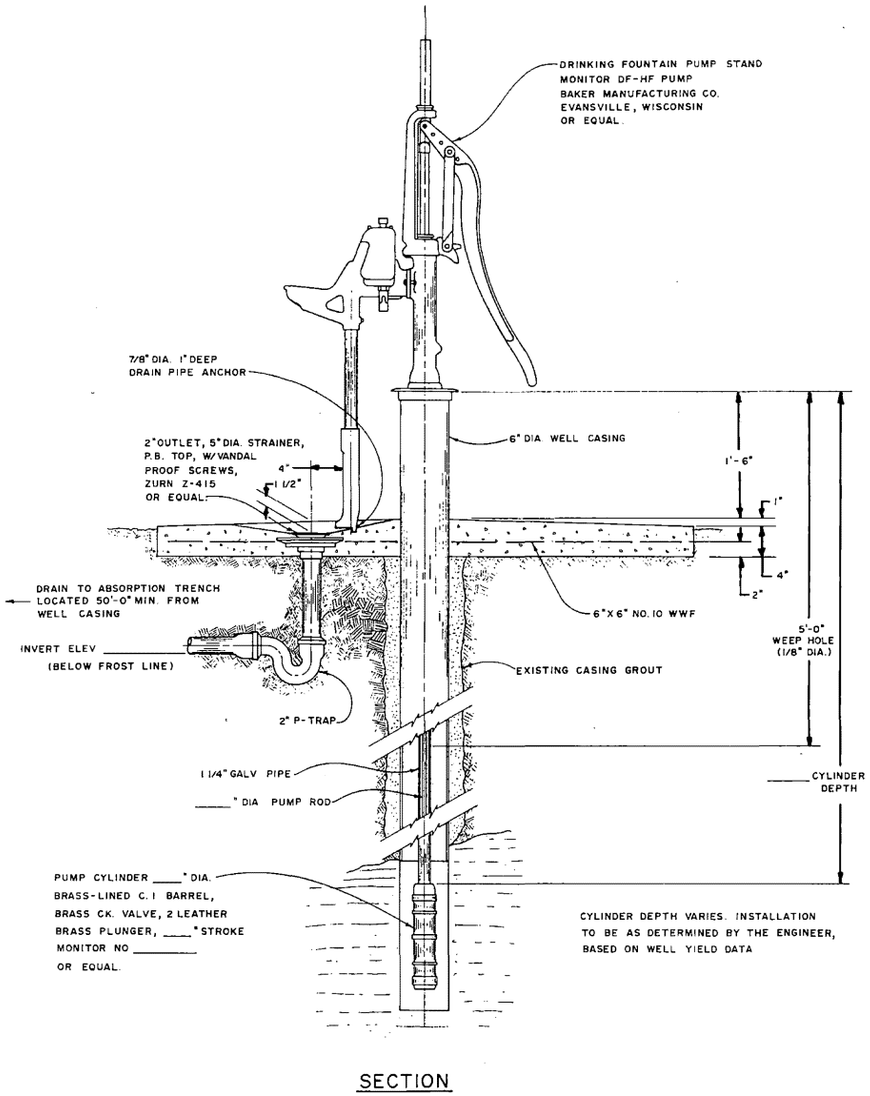
PLAN



CROSS SECTION

STANDARD GRAVEL FILLED, SOIL COVERED ABSORPTION TRENCH

NOTE: WELL & GROUTED CASING ARE EXISTING


DRINKING FOUNTAIN PUMP STAND MONITOR DF-HF PUMP BAKER MANUFACTURING CO. EVANSVILLE, WISCONSIN OR EQUAL.
7/8" DIA. 1" DEEP DRAIN PIPE ANCHOR
2" OUTLET, 5" DIA. STRAINER, P.B. TOP, W/VANDAL PROOF SCREWS, ZURN Z-415 OR EQUAL.
4"
1 1/2"
6" DIA. WELL CASING
1'-6"
1"
4"
2"
DRAIN TO ABSORPTION TRENCH LOCATED 50'-0" MIN. FROM WELL CASING
INVERT ELEV (BELOW FROST LINE)
6"X 6" NO. 10 WWF
5'-0" WEEP HOLE (1/8" DIA.)
EXISTING CASING GROUT
2" P-TRAP
1 1/4" GALV PIPE
_____" DIA PUMP ROD
CYLINDER DEPTH
PUMP CYLINDER ____" DIA. BRASS-LINED C.I BARREL, BRASS CK. VALVE, 2 LEATHER BRASS PLUNGER, ____" STROKE MONITOR NO _____ OR EQUAL.
CYLINDER DEPTH VARIES. INSTALLATION TO BE AS DETERMINED BY THE ENGINEER, BASED ON WELL YIELD DATA

SECTION

SCALE 1 1/2"=1'-0"

1 of 1

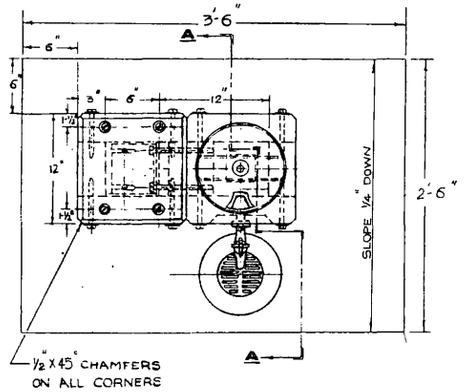
R-8

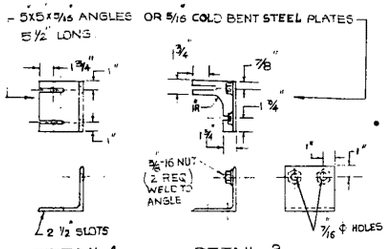
S-7409

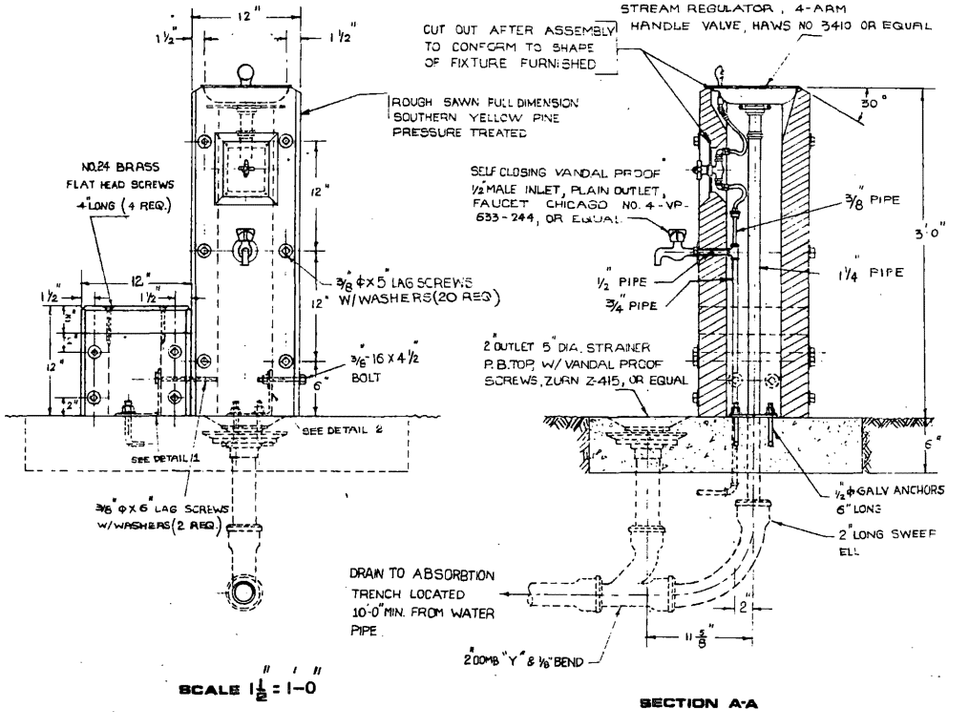
■ Details Complete
□ Details Incomplete

Forest Service · USDA

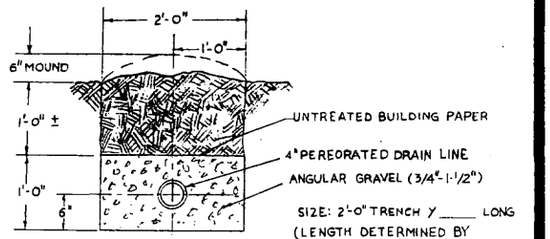
Drinking Fountain
Wood Pedestal Type



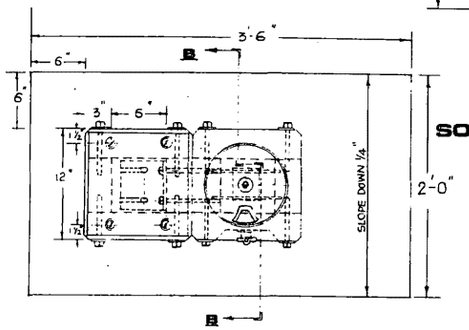


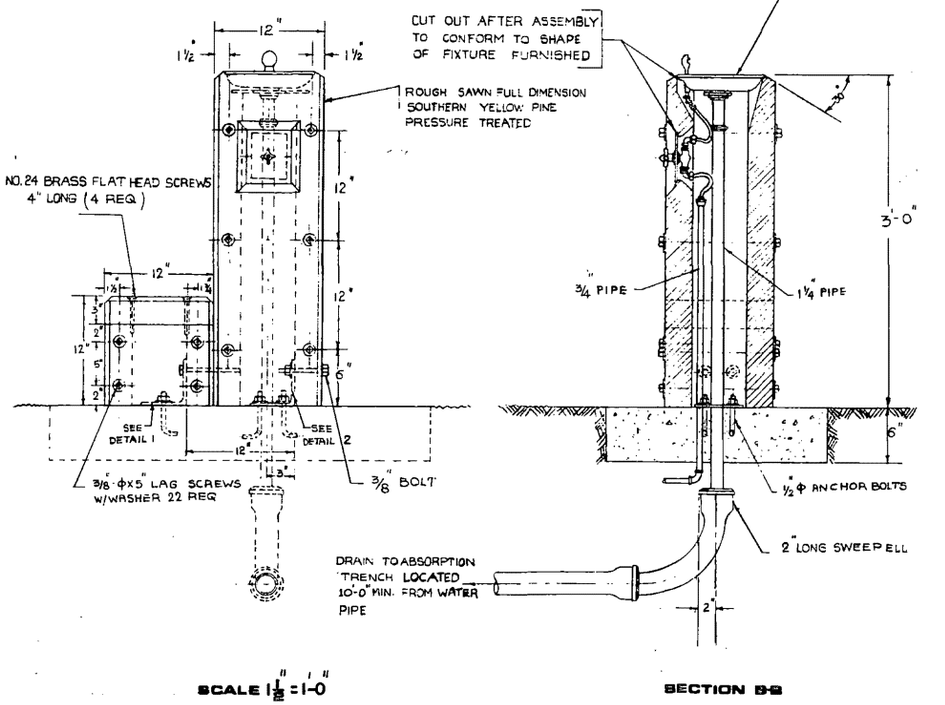

PEDESTAL DRINKING FOUNTAIN KIT, 9⅞" DIA. STAINLESS STEEL BOWL, 1¼" O.D. WASTE TAILPIECE, AUTOMATIC STREAM REGULATOR, 4-ARM HANDLE VALVE, HAWS NO 3410 OR EQUAL
CUT OUT AFTER ASSEMBLY TO CONFORM TO SHAPE OF FIXTURE FURNISHED
ROUGH SAWN FULL DIMENSION SOUTHERN YELLOW PINE PRESSURE TREATED
NO.24 BRASS FLAT HEAD SCREWS 4" LONG (4 REQ.)
SELF CLOSING VANDAL PROOF ½" MALE INLET, PLAIN OUTLET, FAUCET CHICAGO NO. 4-VP-633-244, OR EQUAL
⅜" PIPE
½" PIPE
¾" PIPE
1¼" PIPE
2" OUTLET 5" DIA. STRAINER P.B.TOP W/ VANDAL PROOF SCREWS, ZURN Z-415, OR EQUAL
⅜" ϕ X 5" LAG SCREWS W/WASHERS (20 REQ)
⅜"-16 X 4½" BOLT
SEE DETAIL 1
SEE DETAIL 2
⅜" ϕ X 6" LAG SCREWS W/WASHERS (2 REQ.)
½" ϕ GALV ANCHORS 6" LONG
2" LONG SWEEP ELL
DRAIN TO ABSORBTION TRENCH LOCATED 10'-0" MIN. FROM WATER PIPE
2" DOMB "Y" & ⅛" BEND
SCALE 1½" = 1'-0"
SECTION A-A

FOUNTAIN WITH SIDE FAUCET



STANDARD GRAVEL FILLED, SOIL COVERED ABSORPTION TRENCH




PEDESTAL DRINKING FOUNTAIN KIT 9⅞" DIA. STAINLESS STEEL BOWL 1¼" O.D. WASTE TAILPIECE, AUTOMATIC STREAM REGULATOR, 4-ARM HANDLE VALVE, HAWS NO. 3410, OR EQUAL.
CUT OUT AFTER ASSEMBLY TO CONFORM TO SHAPE OF FIXTURE FURNISHED
ROUGH SAWN FULL DIMENSION SOUTHERN YELLOW PINE PRESSURE TREATED
NO. 24 BRASS FLAT HEAD SCREWS 4" LONG (4 REQ.)
¾" PIPE
1¼" PIPE
SEE DETAIL 1
SEE DETAIL 2
⅜" ϕ X 5" LAG SCREWS W/WASHER 22 REQ
⅜" BOLT
½" ϕ ANCHOR BOLTS
2" LONG SWEEP ELL
DRAIN TO ABSORPTION TRENCH LOCATED 10'-0" MIN. FROM WATER PIPE
SCALE 1½" = 1'-0"
SECTION B-B

FOUNTAIN WITHOUT SIDE FAUCET

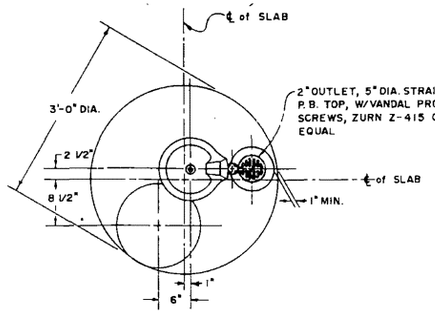
Forest Service · USDA

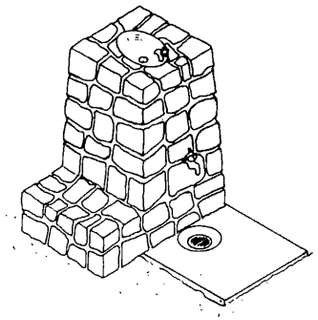
1 of 1

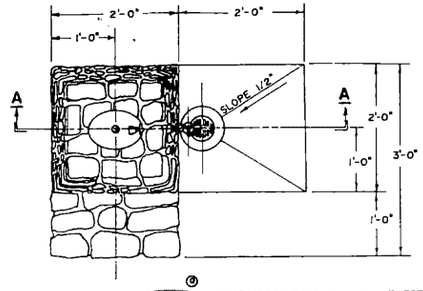
R-8
S-7601

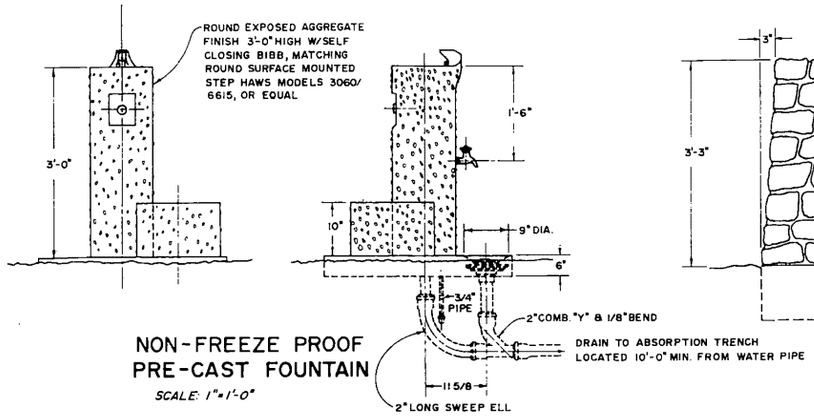
■ Details Complete
□ Details Incomplete

Drinking Fountains And Hydrant

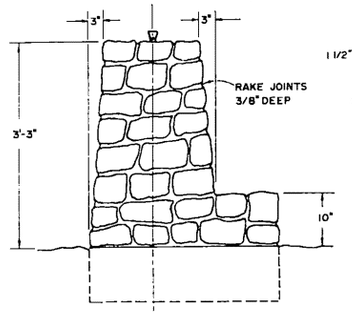


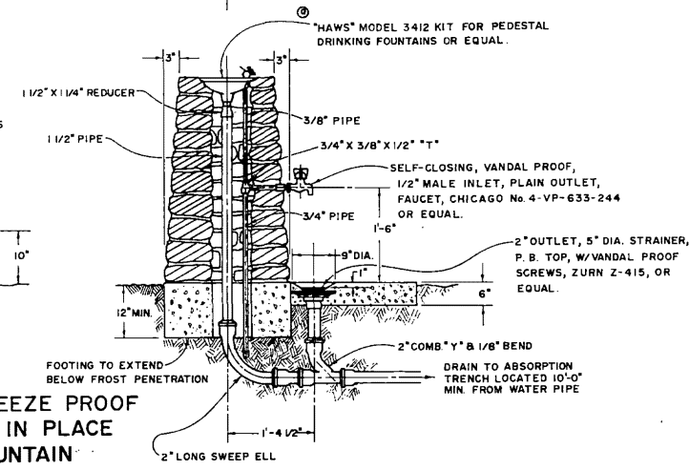





ROUND EXPOSED AGGREGATE FINISH 3'-0" HIGH W/SELF CLOSING BIBB, MATCHING ROUND SURFACE MOUNTED STEP HAWS MODELS 3060/ 6615, OR EQUAL
3'-0"
1'-6"
10"
9" DIA.
6"
3/4" PIPE
2" COMB. "Y" & 1/8" BEND
DRAIN TO ABSORPTION TRENCH LOCATED 10'-0" MIN. FROM WATER PIPE
11 5/8"
2" LONG SWEEP ELL

NON-FREEZE PROOF
PRE-CAST FOUNTAIN
SCALE: 1"=1'-0"

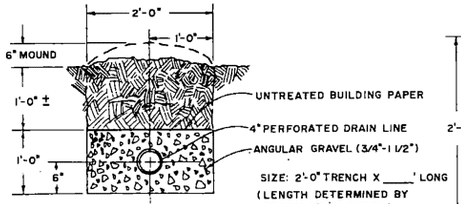



"HAWS" MODEL 3412 KIT FOR PEDESTAL DRINKING FOUNTAINS OR EQUAL.
3"
3"
1 1/2" X 1 1/4" REDUCER
3/8" PIPE
1 1/2" PIPE
3/4" X 3/8" X 1/2" "T"
SELF-CLOSING, VANDAL PROOF, 1/2" MALE INLET, PLAIN OUTLET, FAUCET, CHICAGO No. 4-VP-633-244 OR EQUAL.
3/4" PIPE
1'-6"
9" DIA.
2" OUTLET, 5" DIA. STRAINER, P. B. TOP, W/VANDAL PROOF SCREWS, ZURN Z-415, OR EQUAL.
1"
6"
12" MIN.
2" COMB. "Y" & 1/8" BEND
FOOTING TO EXTEND BELOW FROST PENETRATION
DRAIN TO ABSORPTION TRENCH LOCATED 10'-0" MIN. FROM WATER PIPE
1'-4 1/2"
2" LONG SWEEP ELL

NON-FREEZE PROOF
CAST IN PLACE
FOUNTAIN
SCALE: 1"=1'-0"

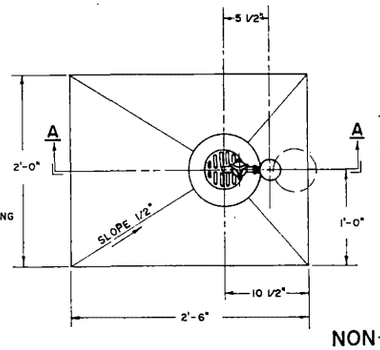
SECTION AA

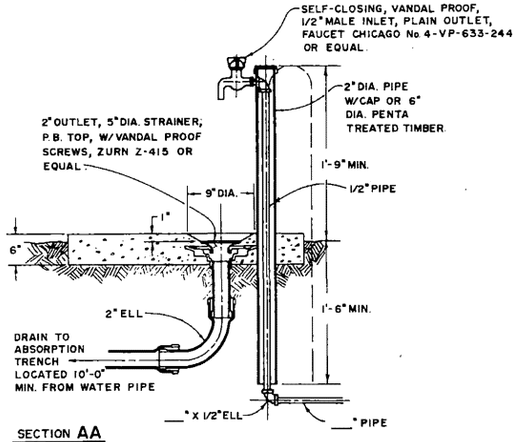
CHANGE	DATE	BY
b SANITARY FREEZE PROOF HYDRANT REMOVED	2-27-78	DJS
a I WAS "CENTURY"	7-8-77	DJS



CROSS
SECTION

STANDARD GRAVEL FILLED,
SOIL COVERED ABSORPTION TRENCH
SCALE: 1"=1'-0"




SELF-CLOSING, VANDAL PROOF, 1/2" MALE INLET, PLAIN OUTLET, FAUCET CHICAGO No. 4-VP-633-244 OR EQUAL.
2" DIA. PIPE W/CAP OR 6" DIA. PENTA TREATED TIMBER.
2" OUTLET, 5" DIA. STRAINER; P.B. TOP, W/VANDAL PROOF SCREWS, ZURN Z-415 OR EQUAL
1'-9" MIN.
9" DIA.
1/2" PIPE
1"
6"
2" ELL
1'-6" MIN.
DRAIN TO ABSORPTION TRENCH LOCATED 10'-0" MIN. FROM WATER PIPE
" X 1/2" ELL
" PIPE

SECTION AA

NON-FREEZE PROOF HYDRANT
SCALE: 1 1/2"=1'-0"

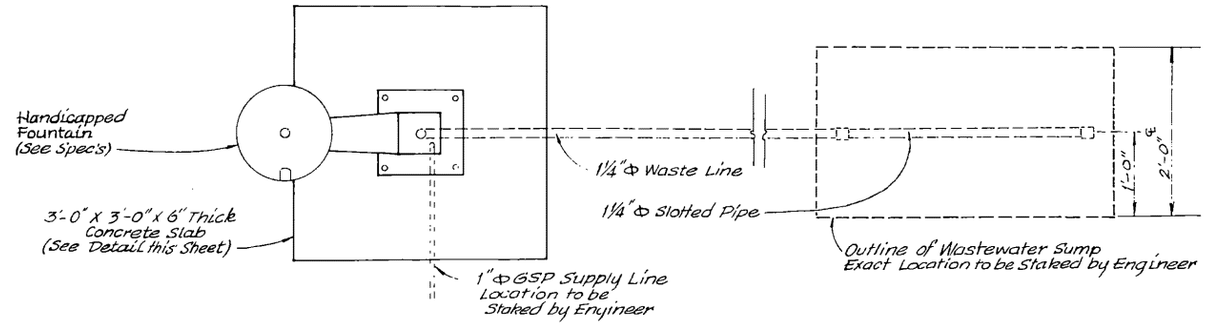
R-8
S-7402

1 of 1

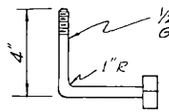
■ Details Complete
□ Details Incomplete

Forest Service · USDA

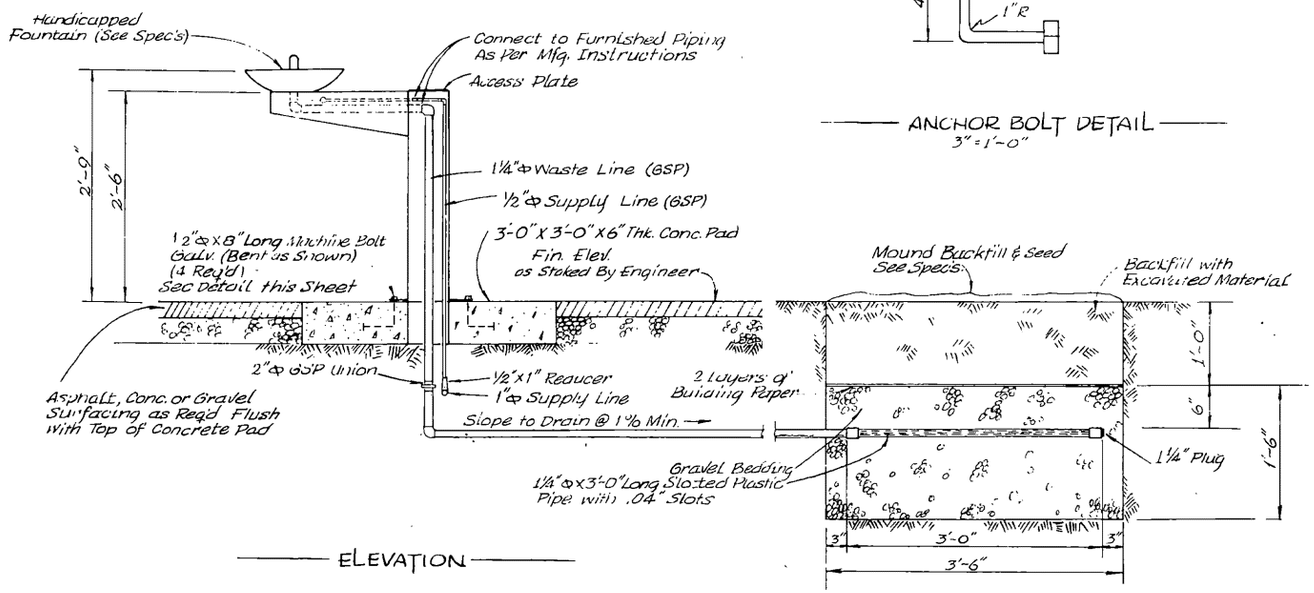
Drinking Fountain
Pedestal With Arm


Handicapped Fountain (See Spec's)
3'-0" X 3'-0" X 6" Thick Concrete Slab (See Detail this Sheet)
1¼"ø Waste Line
1¼"ø Slotted Pipe
1'-0"
2'-0"
1"ø GSP Supply Line Location to be Staked by Engineer
Outline of Wastewater Sump Exact Location to be Staked by Engineer

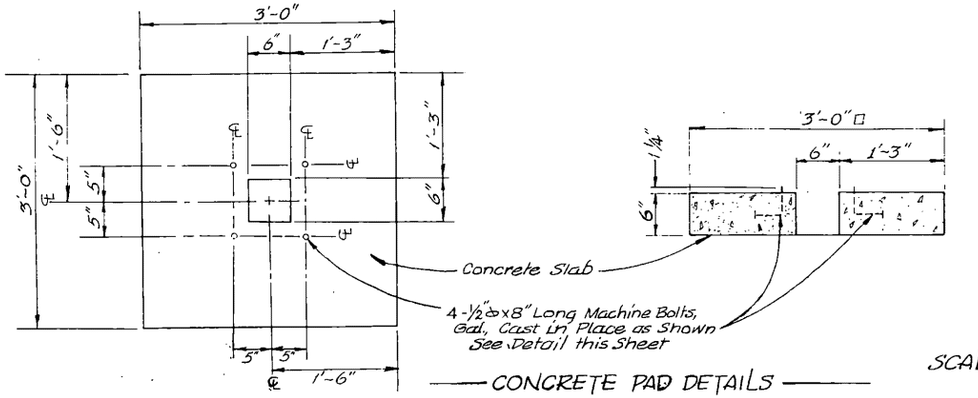
PLAN



ANCHOR BOLT DETAIL
3" = 1'-0"


Handicapped Fountain (See Spec's)
Connect to Furnished Piping As Per Mfg. Instructions
Access Plate
2'-9"
2'-6"
1¼"ø Waste Line (GSP)
½"ø Supply Line (GSP)
½"ø x 8" Long Machine Bolt Galv. (Bent as Shown) (4 Req'd) See Detail this Sheet
3'-0" X 3'-0" X 6" Thk. Conc. Pad Fin. Elev. as Staked By Engineer
Mound Backfill & Seed See Specs.
Backfill with Excavated Material
2"ø GSP Union
½"x1" Reducer
1"ø Supply Line
2 Layers of Building Paper
Slope to Drain @ 1% Min.
Asphalt, Conc. or Gravel Surfacing as Req'd Flush With Top of Concrete Pad
1'-0"
6"
1'-6"
1¼" Plug
Gravel Bedding
1¼"ø x 3'-0" Long Slotted Plastic Pipe with .04" Slots
3"
3'-0"
3"
3'-6"

ELEVATION



CONCRETE PAD DETAILS

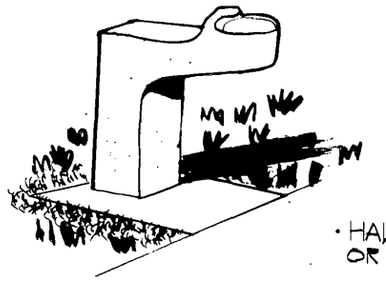
SCALE: 1" = 1'-0"

Forest Service · USDA

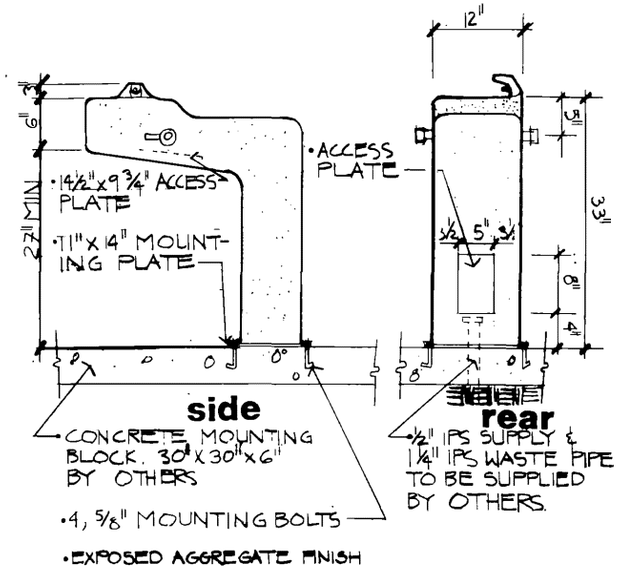
1 of 1

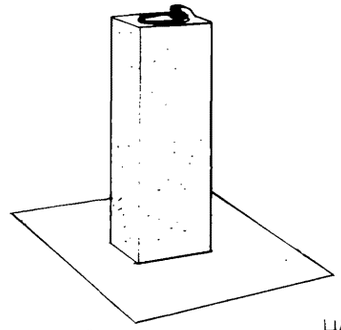
R-2
PI.31-R2-B4
■ Details Complete
□ Details Incomplete

Drinking Fountains

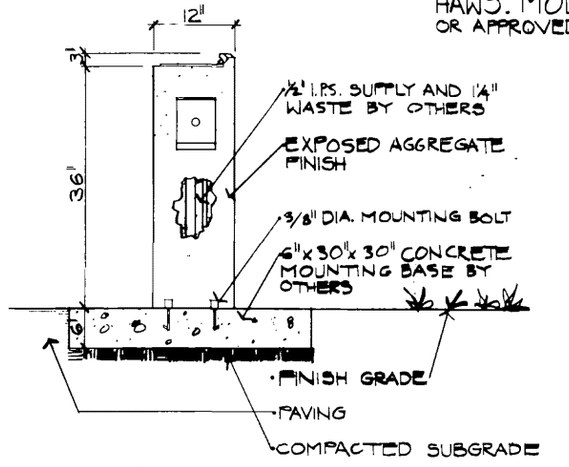


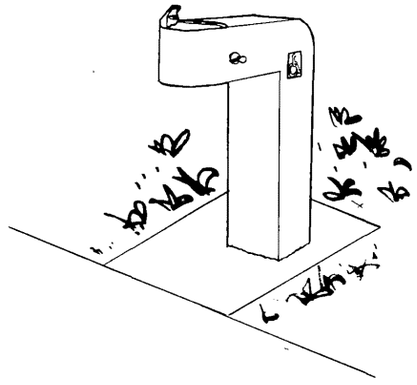
• HAWS. MODEL #3.76
OR APPROVED EQUAL

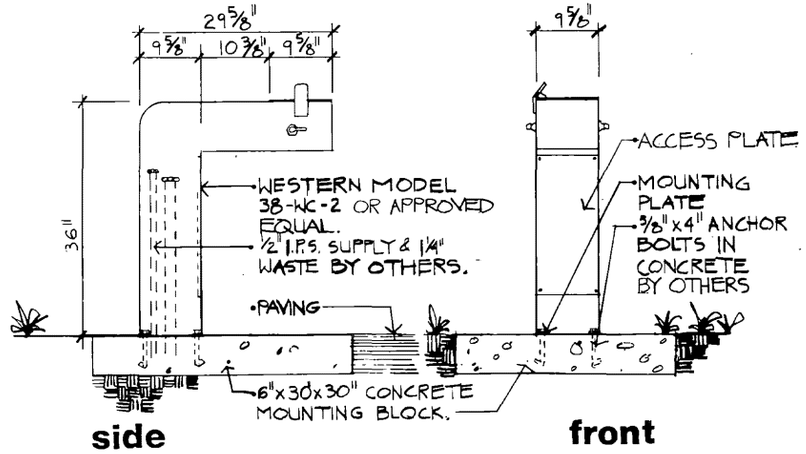




HAWS. MODEL #3120
OR APPROVED EQUAL





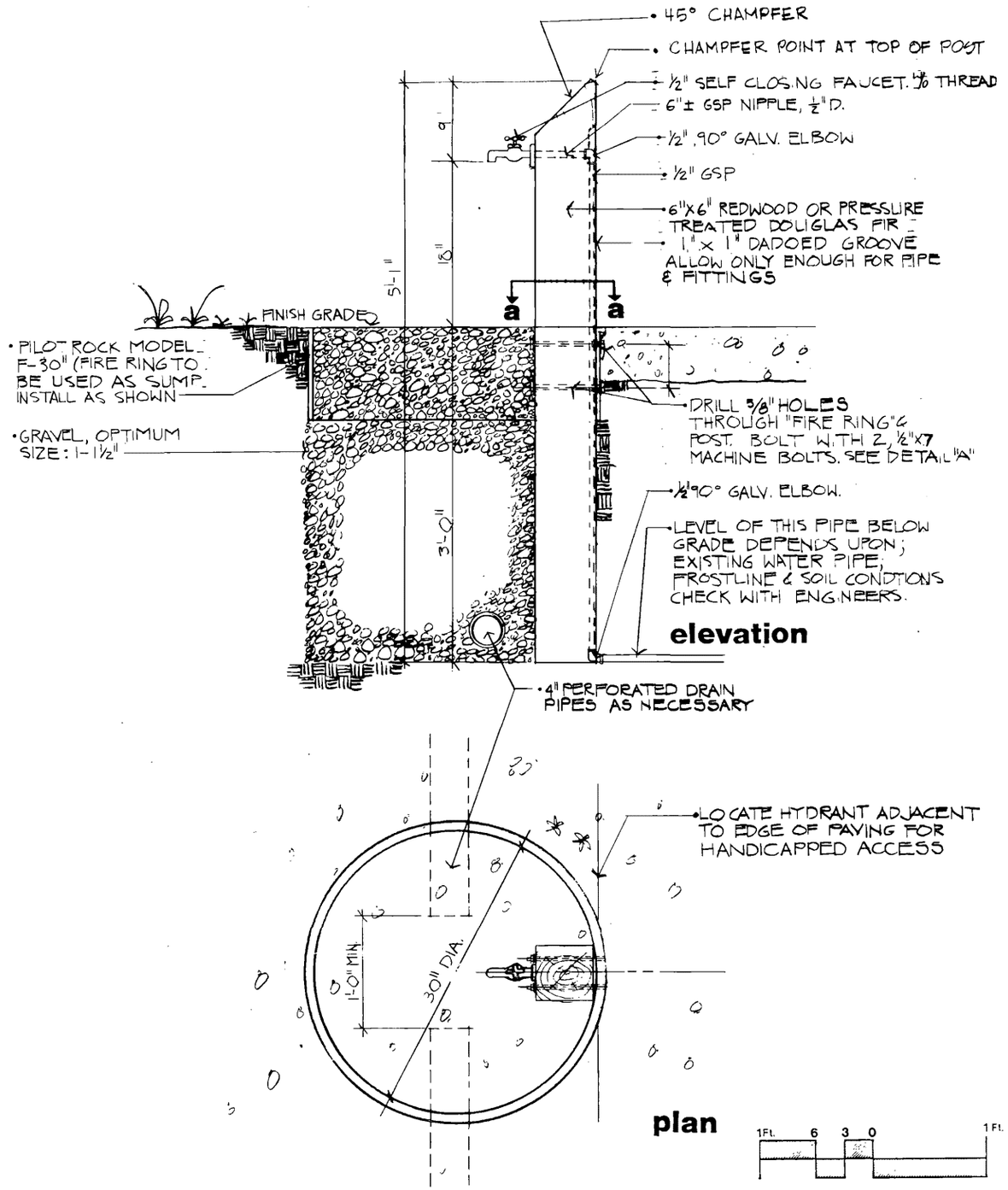


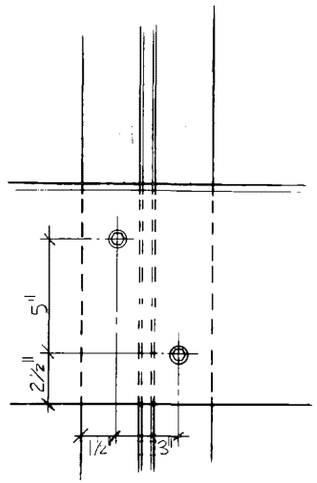
1 Ft. 6 3 0 1 2 Ft.

Forest Service • USDA

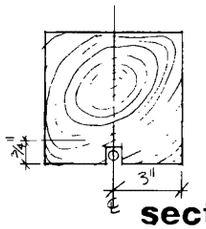
1 of 1

R-5
PI.B-9101
■ Details Complete
□ Details Incomplete


45° CHAMPFER
CHAMPFER POINT AT TOP OF POST
½" SELF CLOSING FAUCET. ¾ THREAD
6"± GSP NIPPLE, ½" D.
½", 90° GALV. ELBOW
½" GSP
6"X6" REDWOOD OR PRESSURE TREATED DOUGLAS FIR
1" x 1" DADOED GROOVE ALLOW ONLY ENOUGH FOR PIPE & FITTINGS
9"
18"
5'-1"
3'-0"
a
a
FINISH GRADE
PILOT ROCK MODEL F-30" (FIRE RING TO BE USED AS SUMP. INSTALL AS SHOWN
GRAVEL, OPTIMUM SIZE: 1-1½"
DRILL ⅝" HOLES THROUGH "FIRE RING" & POST. BOLT WITH 2, ½"X7 MACHINE BOLTS. SEE DETAIL "A"
½" 90° GALV. ELBOW.
LEVEL OF THIS PIPE BELOW GRADE DEPENDS UPON; EXISTING WATER PIPE, FROSTLINE & SOIL CONDITIONS CHECK WITH ENGINEERS.
elevation
4" PERFORATED DRAIN PIPES AS NECESSARY
LOCATE HYDRANT ADJACENT TO EDGE OF PAVING FOR HANDICAPPED ACCESS
1'-0" MIN.
30" DIA.
plan
1Ft. 6 3 0 1Ft.



detail a



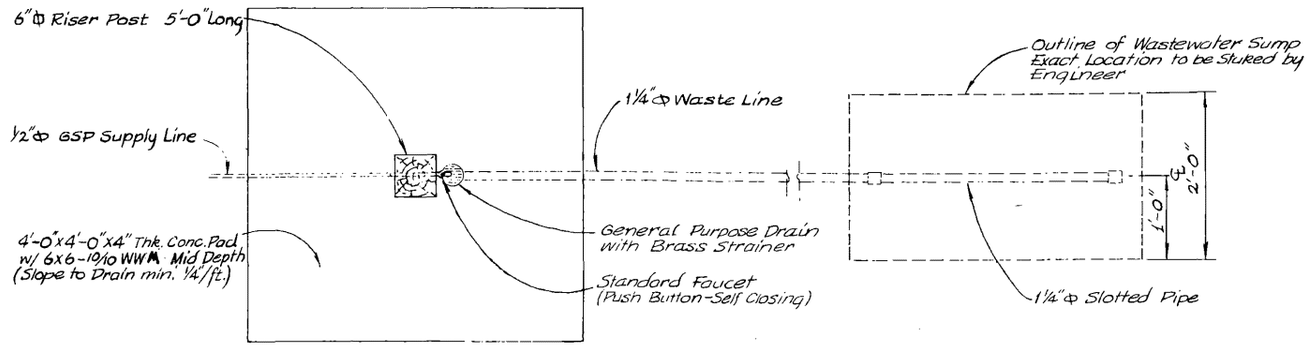
section a-a

Water Hydrant Wood Post Type

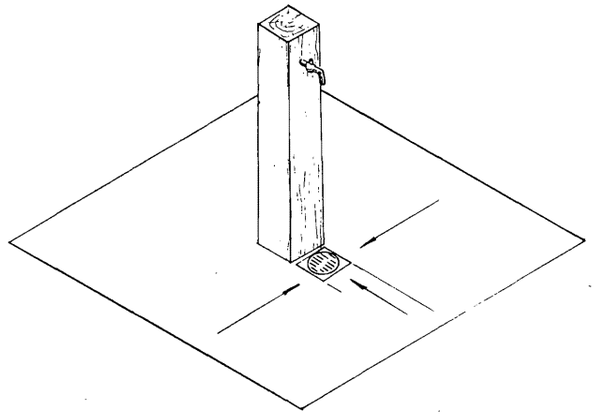
1 of 1

R-5
PI. B-9201
■ Details Complete
□ Details Incomplete

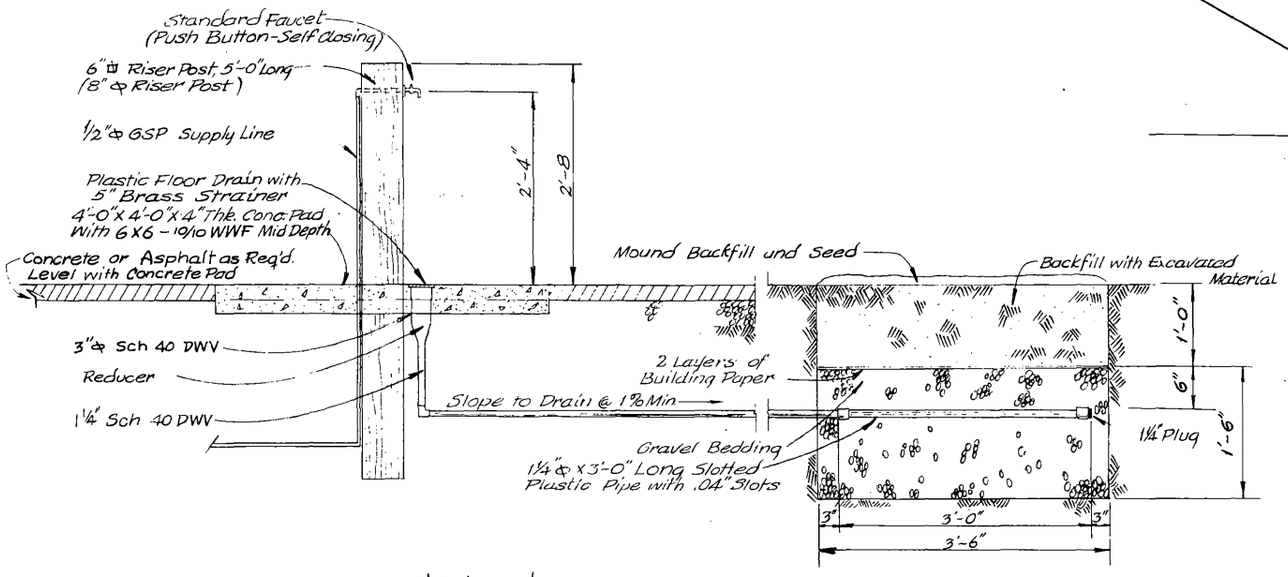
Forest Service · USDA


6" ⌀ Riser Post 5'-0" Long
1/2" ⌀ GSP Supply Line
4'-0"x4'-0"x4" Thk. Conc. Pad w/ 6x6-10/10 WWM Mid Depth (Slope to Drain min. 1/4"/ft.)
1 1/4" ⌀ Waste Line
General Purpose Drain with Brass Strainer
Standard Faucet (Push Button-Self Closing)
Outline of Wastewater Sump Exact Location to be Staked by Engineer
1'-0"
2'-0"
1 1/4" ⌀ Slotted Pipe

PLAN



PERSPECTIVE


Standard Faucet (Push Button-Self Closing)
6" ⌀ Riser Post 5'-0" Long (8" ⌀ Riser Post)
1/2" ⌀ GSP Supply Line
Plastic Floor Drain with 5" Brass Strainer
4'-0"x4'-0"x4" Thk. Conc. Pad With 6x6-10/10 WWF Mid Depth
Concrete or Asphalt as Req'd. Level with Concrete Pad
3" ⌀ Sch 40 DWV
Reducer
1 1/4" Sch 40 DWV
2'-4"
2'-8"
Mound Backfill and Seed
Backfill with Excavated Material
2 Layers of Building Paper
Slope to Drain @ 1% Min
Gravel Bedding
1 1/4" ⌀ x 3'-0" Long Slotted Plastic Pipe with .04" Slots
1'-0"
6"
1 1/4" Plug
1'-6"
3"
3'-0"
3"
3'-6"

ELEVATION

Scale 1" = 1'-0"

Water Hydrant
Wood Post Type

1 of 1

R-2
PI.31-R2-B5
■ Details Complete
□ Details Incomplete

Forest Service · USDA

Depth Marker

"BILL" OF "MATERIAL"

Post:
4"x4" - #1 Dimension Treated

Finish
Post - 3 Coats White Lead and Oil Paint.
Numbers - Black Enamel.

"TYPE" A "MARKER."

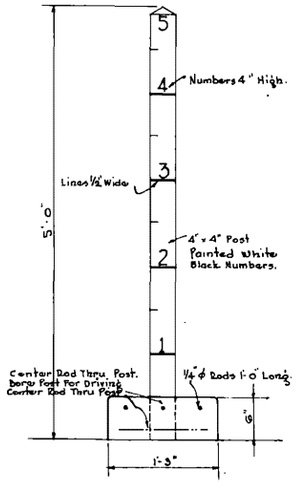
1 - 4" x 4" x 5'-0"		Post.
½ Sack	- Portland Cement	Base.
.4 Cu. Ft.	- Fine Aggregate	Base.
.6 " "	- Coarse Aggregate	Base.
6 Each	½"ϕ x 1'-0" Rods	Base.

"TYPE" B "MARKER."

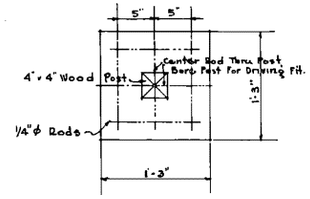
1 - 4" x 4" x 7'-0"		Post.
⅓ Sack	- Portland Cement	Base.
.75 Cu. Ft.	- Fine Aggregate	Base.
1.1 " "	- Coarse Aggregate	Base.
6 Each	½"ϕ x 1'-4" Rods	Base.

No Allowance For Waste in this Bill of Material.

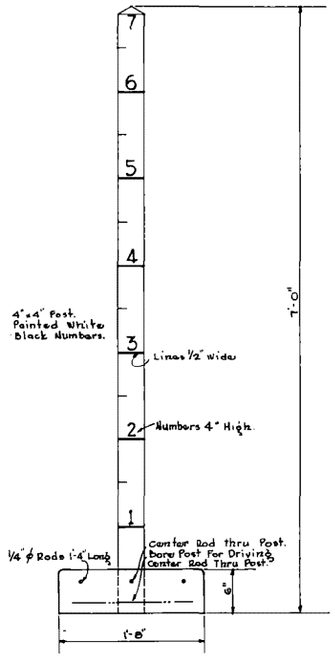
Note:
Post to be pre-cut and pentachlorophenol treated. Treatment to be by pressure method to 6# retention or by cold soaking method as per F.P.L. Report #1445.



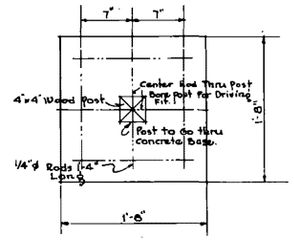
"SIDE"



"TOP" VIEW"
"TYPE" A "MARKER."



"SIDE"



"TOP" VIEW"
"TYPE" B "MARKER."

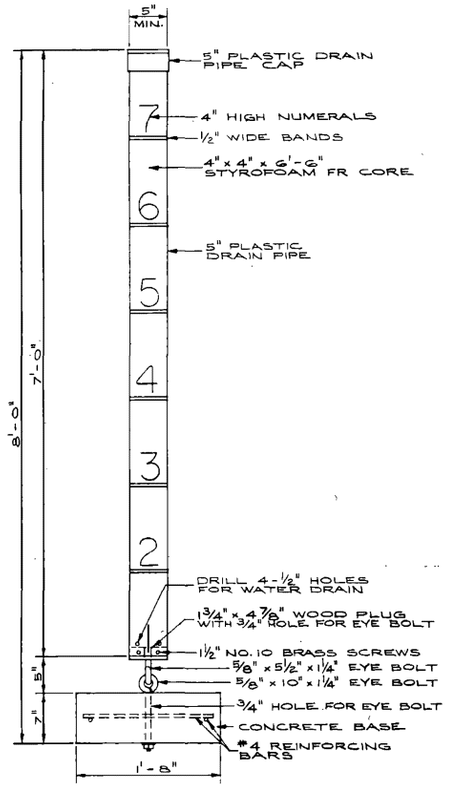
"WATER" DEPTH "MARKER"

SCALE 1"=1'-0"

Forest Service · USDA

1 of 1

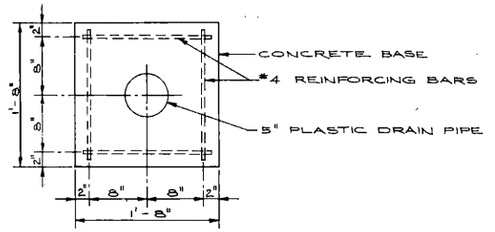
R-9
U-90
■ Details Complete
□ Details Incomplete



ELEVATION

7' MARKER

SCALE: 1" = 1'-0".



TYPICAL PLAN

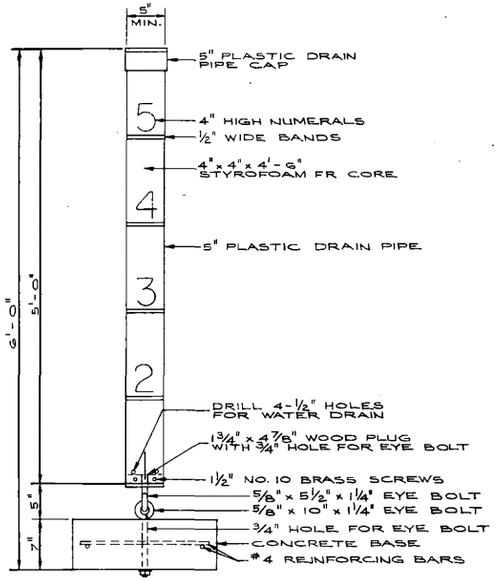
SCALE: 1" = 1'-0".

BILL OF MATERIALS

QUANTITY	SIZE	ITEM
1	1¾" x 4⅞"	WOOD PLUG
1	5" x 5'-0" OR 7'-0"	PLASTIC DRAIN PIPE
1	5"	PLASTIC DRAIN PIPE CAP
1	4" x 4" x 4'-6" OR 6'-6"	STYROFOAM FR CORE
1	⅝" x 5½" x 1¼"	GALVANIZED EYE BOLT
1	⅝" x 10" x 1¼"	GALVANIZED EYE BOLT
2	⅝"	GALVANIZED WASHERS
2	⅝"	GALVANIZED NUTS
6	1½" NO. 10	BRASS ROUND HEAD WOOD SCREWS
4	#4 x 1'-6"	REINFORCING BARS
1.62 CUBIC FEET		CLASS A CONCRETE

NOTE:

FEDERAL SPECIFICATION COLORS, (FOR) READY-MIXED PAINTS, ORANGE #12246 FOR PLASTIC DRAIN TILE AND BLACK #37038 FOR NUMERALS AND BANDS.



ELEVATION

5' MARKER

SCALE: 1" = 1'-0".

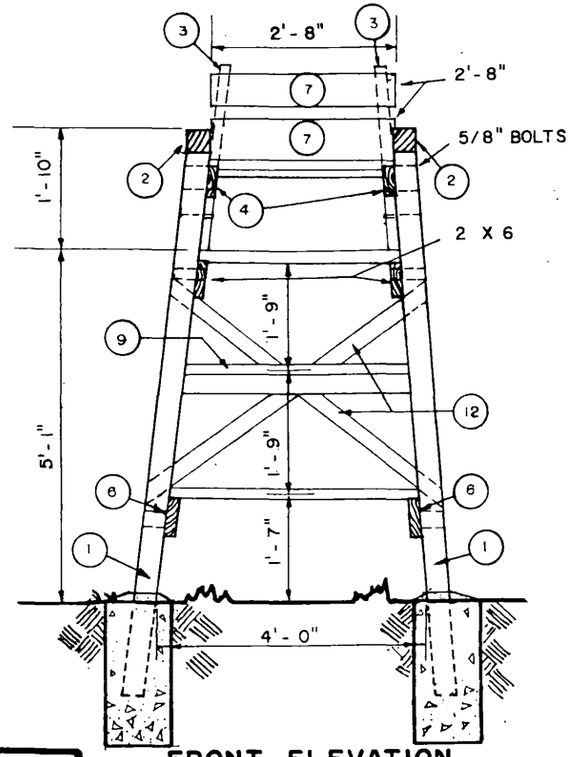
Depth Marker

1 of 1

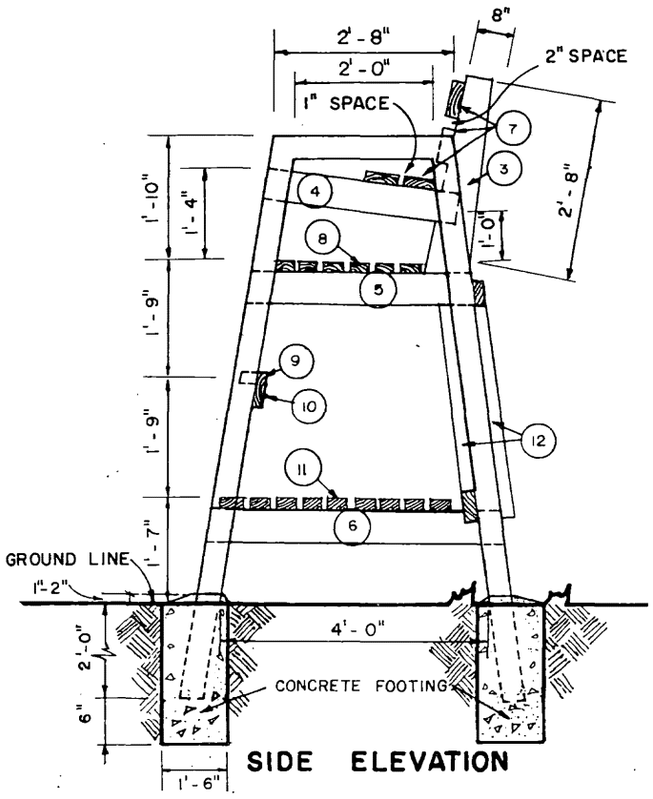
R-9
U-194-01
■ Details Complete
□ Details Incomplete

Forest Service · USDA

Life Guard Chair



FRONT ELEVATION



SIDE ELEVATION

BILL OF MATERIALS			
PART NO.	QUANTITY	DESCRIPTION	
1	4	4 X 4 X 8'-0"	LEGS
2	2	4 X 4 X 8'-0"	ARM REST
3	2	2 X 8 X 2'-8"	BACK BRACE (CUT) (NOTCH SEAT SUPPORT)
4	2	2 X 6 X 2'-7"	SEAT SUPPORT
5	2	2 X 6 X 3'-4"	MIDDLE HORZ. LEG BRACE
6	2	2 X 6 X 3'-4"	BOT. HORZ. LEG BRACE
7	4	2 X 6 X 2'-8"	SEAT AND BACK
8	8	2 X 4 X 3'-0"	DECKING (TOP)
9	1	2 X 4 X 3'-4 1/4"	STEP
10	1	2 X 4 X 3'-11 1/4"	STEP SUPPORT
11	9	2 X 4 X 3'-8"	DECKING (BOTTOM)
12	2	2 X 4 5'-0"	BRACE
	26	5/8" X 6 1/2"	GALV. CARRIAGE BOLT W/WASHER AND NUT
	6#	16 PENNY	COMMON GALV. NAIL

NOTES:

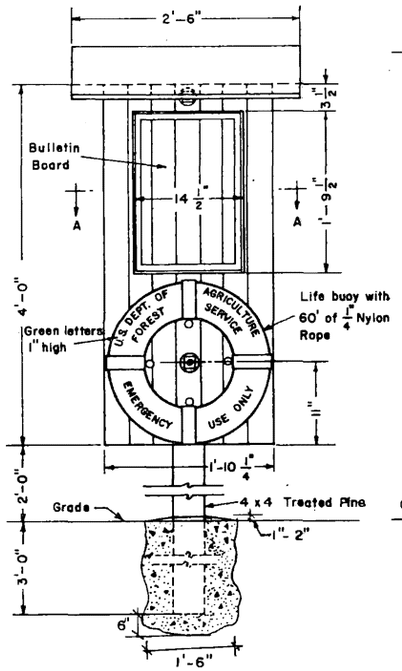
1. PREDRILL 3/4" HOLE FOR CARRIAGE BOLT.
2. ALL WOOD TO BE TREATED WITH CHROMATED COPPER ARSENATE

0 2' 4'
Scale in feet

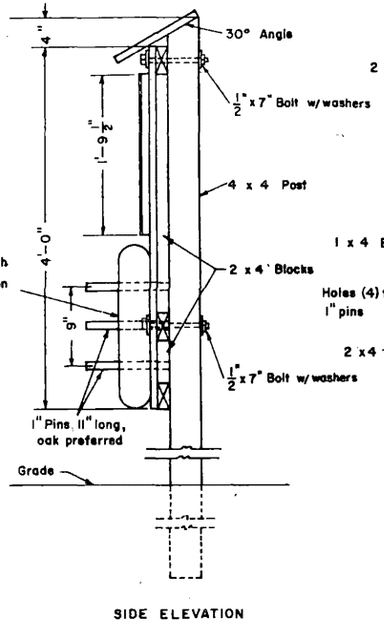
Forest Service · USDA

1 of 1

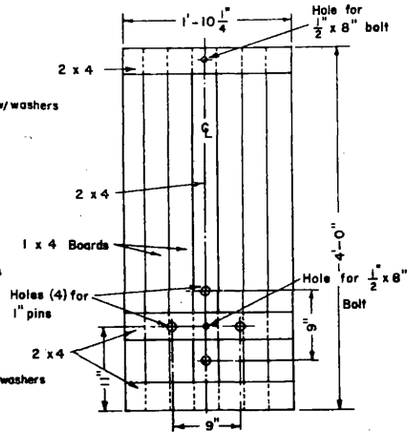
R-8
PI.22W-7901
■ Details Complete
□ Details Incomplete



FRONT ELEVATION



SIDE ELEVATION



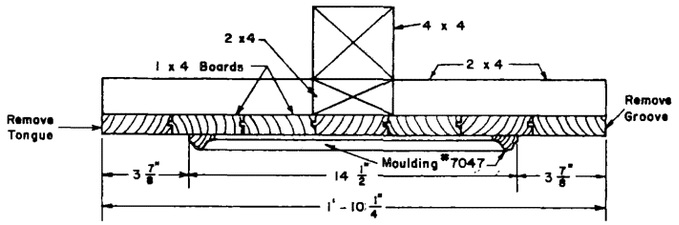
REAR ELEVATION OF BOARD

Note:

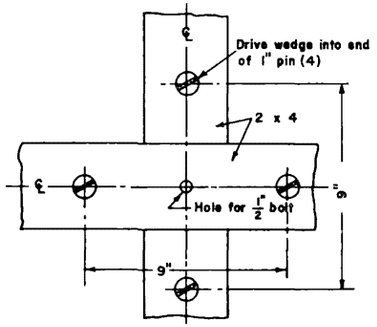
Wood shall be pressure treated.

All hardware to be galvanized.

Forest Landscape Architect to select color of finish, stain, or paint.



SECTION A-A



REAR ELEVATION OF BOARD AT LIFE BUOY

BILL OF MATERIAL

QUAN.	UNIT	SIZE	DESCRIPTION	USE
		CARPENTRY		
1	Pc.	1 x 12 x 2'-6"	#1 Dimension	Roof
1	Pc.	4 x 4 x 9'-4"	#1 Dimension	Post
1	Pc.	2 x 4 x 10'-0"	#1 Dimension	Board Frame
2	Pc.	1 x 4 x 8'-0"	#1 Boards (T&G)	Life ring board
1	Pc.	1 x 4 x 12'-0"	#1 Boards (T&G)	Life ring board
7	Lin. Ft.	3/4" x 1 1/16"	Standard moulding #7047	Bulletin Bd. frame
4	Pc.	1" ϕ x 11"	Pins - oak preferred	Life buoy holder
		HARDWARE		
2		1/2" x 8"	Machine bolts, washers, nuts	Board bolts
42		1/2" #12	Flat headed screws	Framing
4		#10	Handle wedges	Pins
14		3d	Fine nails	Bulletin bd. frame
8		10d	Finishing nails	Roof
		MISCELLANEOUS		
1	Regulation cork life buoy ring with 60' of 1/4" Nylon rope			
1	American Red Cross poster #1002-8 "Artificial Respiration"			

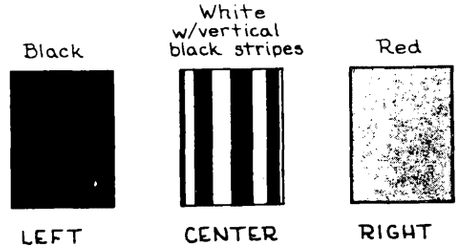
Life Ring Stand

1 of 1

R-8
PI.22W-7901
■ Details Complete
□ Details Incomplete

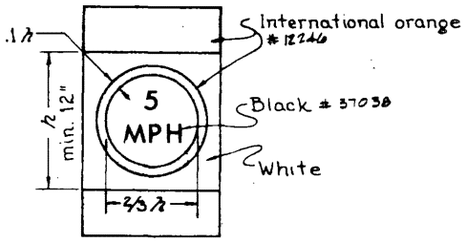
Forest Service · USDA

Waterway Markers



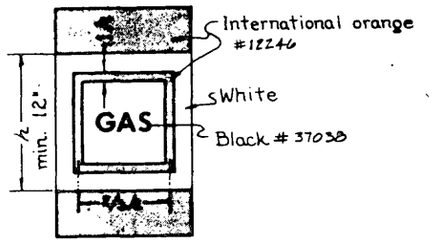
CHANNEL MARKERS

When proceeding upstream
(see sign handbook # 7109.11 section 52.61)



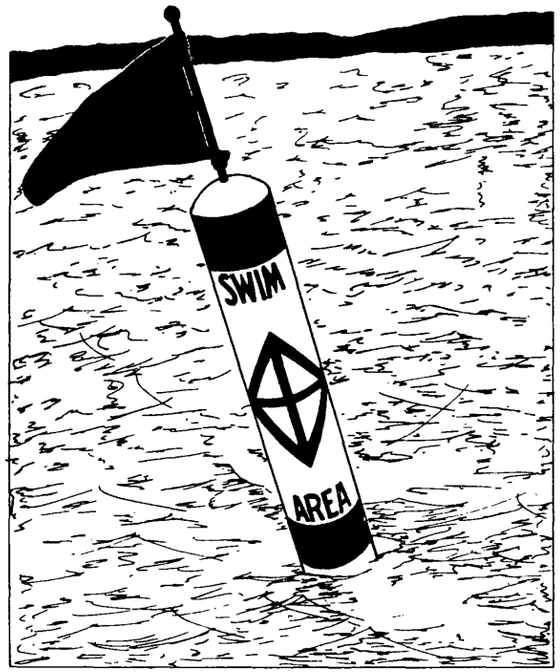
CONTROLLED AREA

Speed limit, No Skiing, No Swimming, Fishing Only, etc.



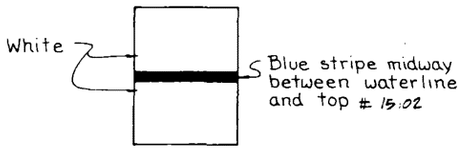
INFORMATION

For displaying official information such as directions, distances, locations, etc.

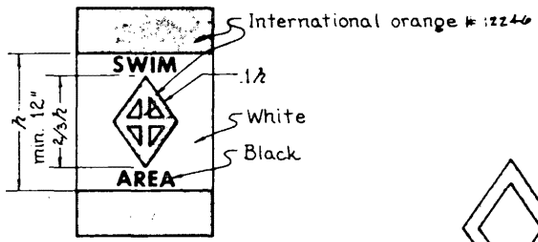


TYPICAL

Flag Optional
(see sign handbook #7109.11 section 52.61)

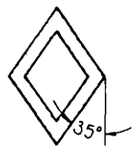


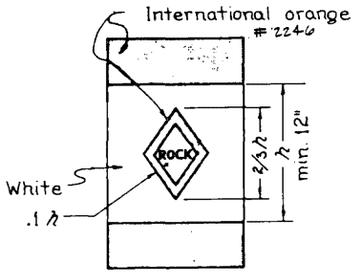
MOORING BUOY



BOATS KEEP OUT

Swim area, dam, domestic water, etc.





DANGER

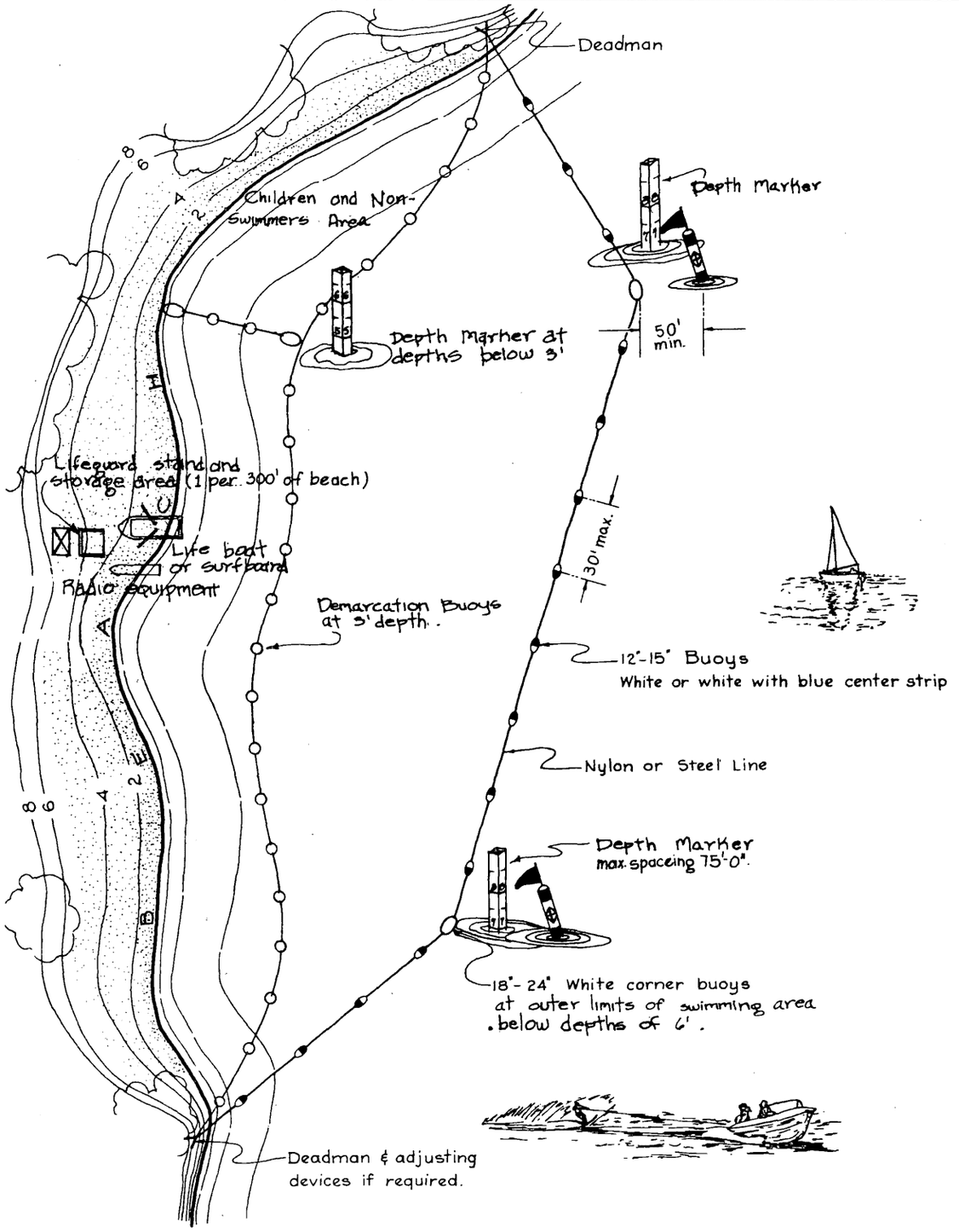
Rock, snag, shoal, reef, wreck, ferry cable, etc.

1 of 2

R-8
PI.22 M-1

■ Details Complete
□ Details Incomplete

Forest Service · USDA

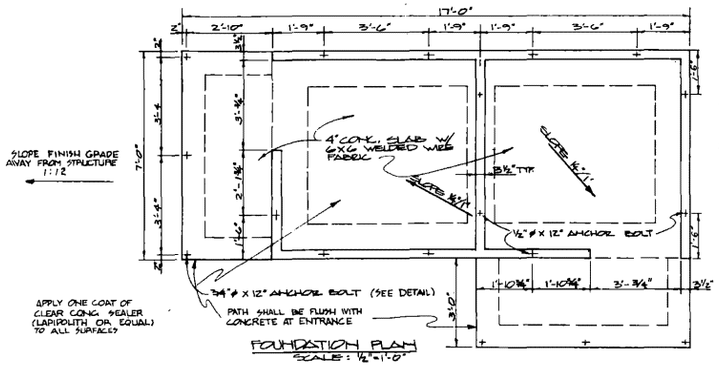

Deadman
Depth Marker
Children and Non-Swimmers Area
Depth Marker at depths below 3'
50' min.
Lifeguard stand and storage area (1 per 300' of beach)
Life boat or surfboard
Radio equipment
30' max.
Demarcation Buoys at 3' depth.
12"-15" Buoys
White or white with blue center strip
Nylon or Steel Line
Depth Marker
max. spacing 75'-0".
18"-24" White corner buoys
at outer limits of swimming area
below depths of 6'.
Deadman & adjusting devices if required.
Schematic ~ No Scale

Waterway Markers

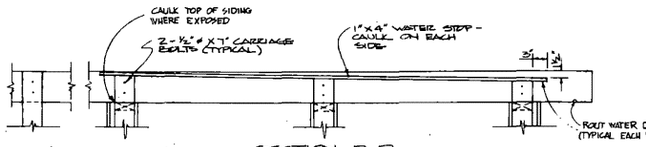
2 of 2

R-8
PI.22M-1
■ Details Complete
□ Details Incomplete

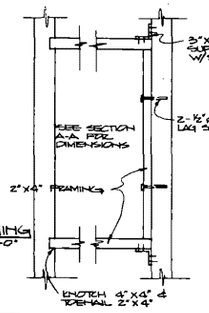
Forest Service · USDA


17'-0"
4" CONC. SLAB W/ 6"x6" WELDED WIRE FABRIC
SLOPE 1/4"/1'
SLOPE 1/4"/1'
1/2" ø X 12" ANCHOR BOLT
3/4" ø X 12" ANCHOR BOLT (SEE DETAIL)
PATH SHALL BE FLUSH WITH CONCRETE AT ENTRANCE
SLOPE FINISH GRADE AWAY FROM STRUCTURE 1:12
APPLY ONE COAT OF CLEAR CONC. SEALER (LAPIDOLITH OR EQUAL) TO ALL SURFACES

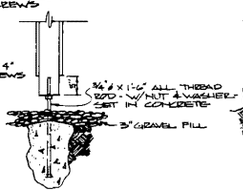
FOUNDATION PLAN
SCALE: 1/2"=1'-0"


CAULK TOP OF SIDING WHERE EXPOSED
2 - 1/2" ø X 7" CARRIAGE BOLTS (TYPICAL)
1"x4" WATER STEP - CAULK ON EACH SIDE
ROUT WATER DRIP (TYPICAL EACH END)

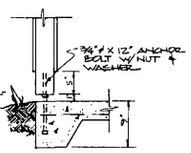
SECTION D-D
SCALE: 1"=1'-0"



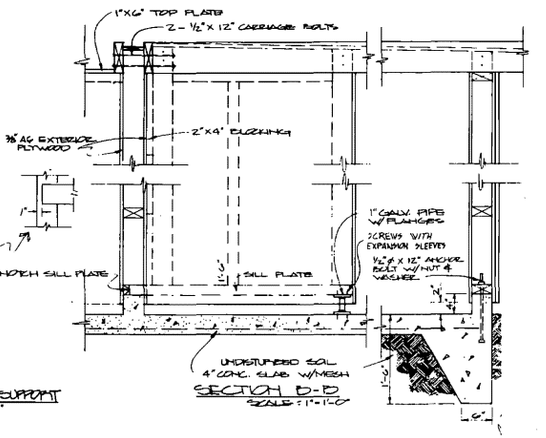
SCREEN FRAMING
SCALE: 1"=1'-0"



TEMPORARY SCREEN SUPPORT
SCALE: 1"=1'-0"

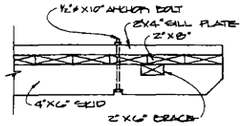


PERMANENT SCREEN SUPPORT
SCALE: 1"=1'-0"

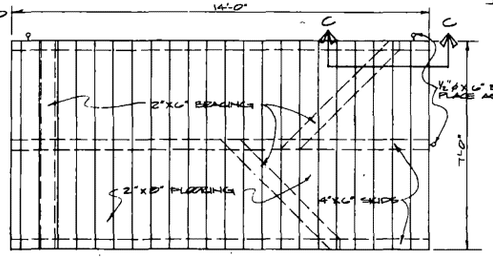

1"X6" TOP PLATES
2 - 1/2" ø X 12" CARRIAGE BOLTS
3/8" AC EXTERIOR PLYWOOD
2"X4" BLOCKING
1" GALV. PIPE W/ FLANGES
SCREWS WITH EXPANSION SLEEVES
1/2" ø X 12" ANCHOR BOLT W/NUT & WASHER
NOTCH SILL PLATE
SILL PLATE
UNDISTURBED SOIL
4" CONC. SLAB W/MESH

SECTION B-B
SCALE: 1"=1'-0"

PLACEMENT OF ANCHOR BOLTS SHALL CORRESPOND WITH THE FOUNDATION PLAN

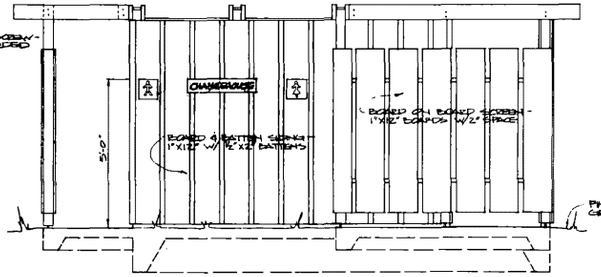


SECTION C-C
SCALE: 1"=1'-0"

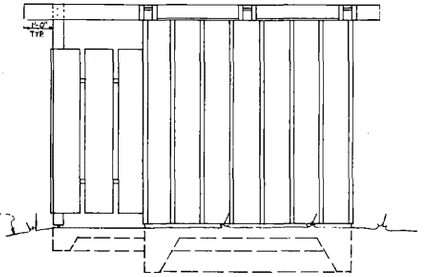


SKIDS & BRACINGS ARE TREATED ROUGH CUT OAK

TEMPORARY SKID PLAN
SCALE: 1/2"=1'-0"

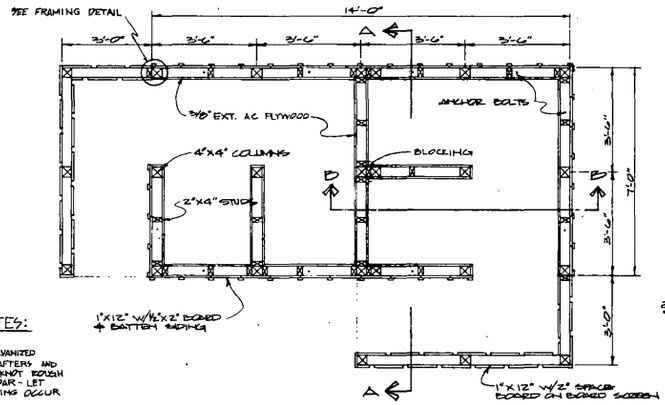


FRONT ELEVATION
SCALE: 1/2"=1'-0"

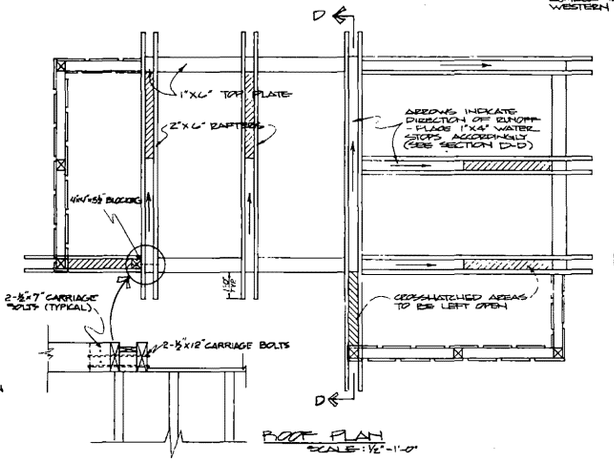


RIGHT SIDE ELEVATION
SCALE: 1/2"=1'-0"

NOTE: ALL EXTERIOR LUMBER IS ROUGH CUT WESTERN RED CEDAR

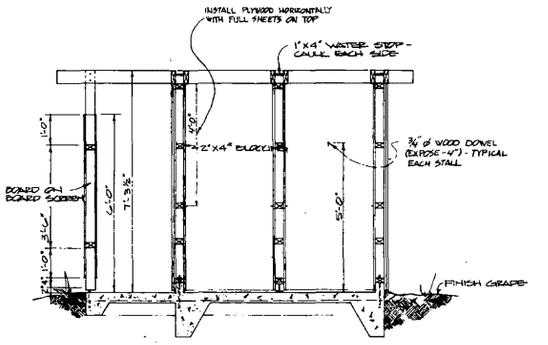


FLOOR PLAN
SCALE: 1/2"=1'-0"


1"X6" TOP PLATE
2"X6" RAFTERS
ARROWS INDICATE DIRECTION OF RUNOFF - PLACE 1"X4" WATER STOPS ACCORDINGLY (SEE SECTION D-D)
4"X4" BLOCKING
2-5/8"ø CARRIAGE BOLTS (TYPICAL)
2 - 1/2"X12" CARRIAGE BOLTS
CROSSHATCHED AREAS TO BE LEFT OPEN

ROOF PLAN
SCALE: 1/2"=1'-0"

FRAMING DETAIL
SCALE: 1"=1'-0"



SECTION A-A
SCALE: 1/2"=1'-0"

GENERAL NOTES:

- ALL HARDWARE IS GALVANIZED
- EXTERIOR SIDING, RAFTERS AND SCREEN ARE TIGHT KNOT ROUGH SAWN WESTERN CEDAR - LET NATURAL WEATHERING OCCUR (DO NOT FINISH)
- ALL SILL PLATES TO BE PRESSURE TREATED
- SEAL ALL EXPOSED LUMBER CUTS (GRAIN END) WITH CAULKING

Four Stall Changehouse Wood Frame With Wood Exterior

1 of 1

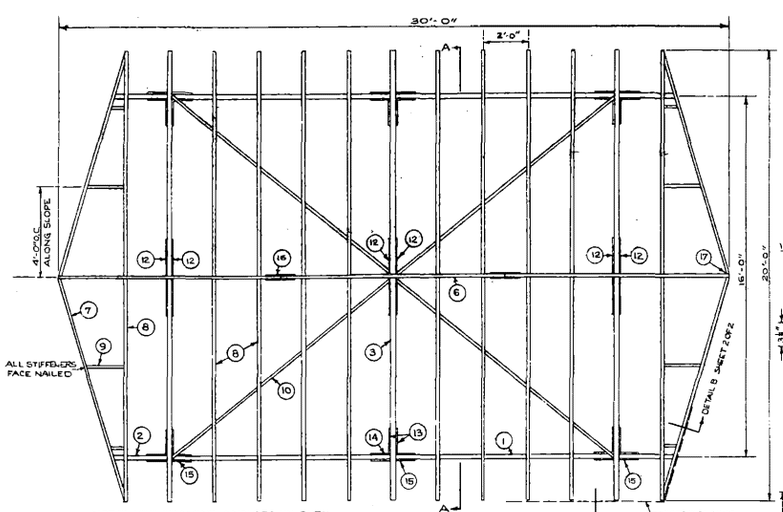
R-9
U-205

■ Details Complete
□ Details Incomplete

Forest Service · USDA

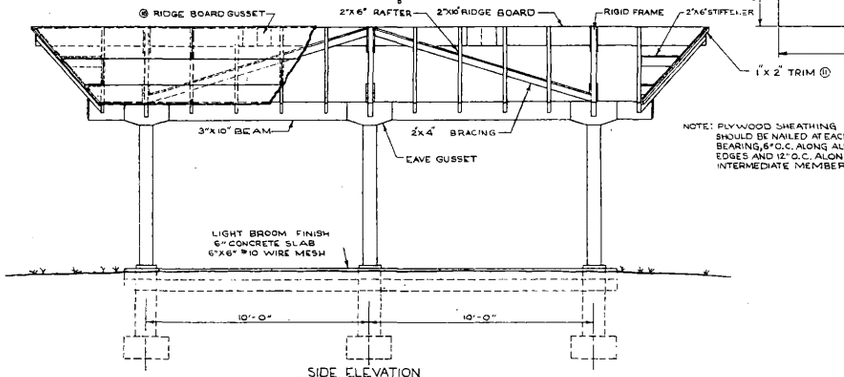
FOREST SERVICE · USDA · DEPARTMENT OF AGRICULTURE

Picnic Shelter
20 x 16 ft. Wood Frame



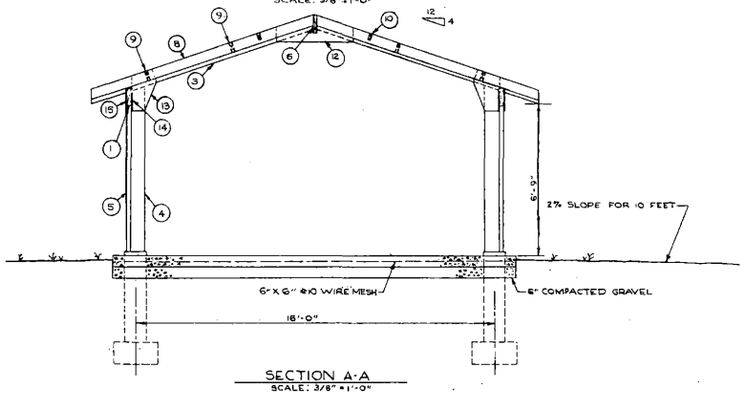
NOTE: USE FRAMING ANCHORS ON BOTH SIDES OF 2"X6" RAFTERS FASTENED TO RIDGE BOARD AND BEAM.

RAFTER PLAN
SCALE: 3/8" = 1'-0"

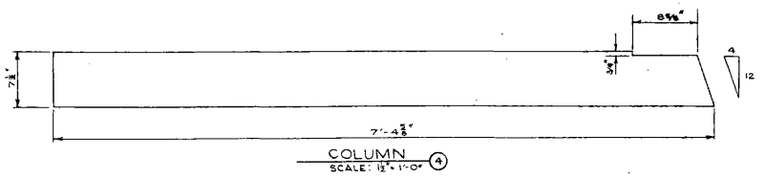


NOTE: PLYWOOD SHEATHING SHOULD BE NAILED AT EACH BEARING, 6" O.C. ALONG ALL EDGES AND 12" O.C. ALONG INTERMEDIATE MEMBERS.

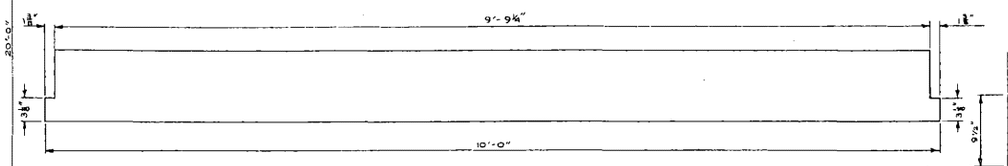
SIDE ELEVATION
SCALE: 3/8" = 1'-0"



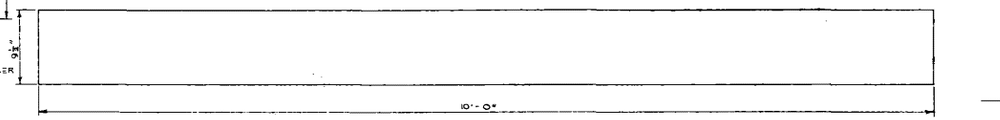
SECTION A-A
SCALE: 3/8" = 1'-0"



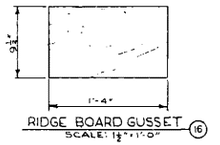
COLUMN (4)
SCALE: 1½" = 1'-0"



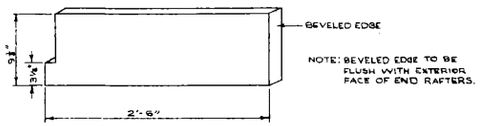
BEAM (1)
SCALE: 1½" = 1'-0"



RIDGE BOARD (6)
SCALE: 1½" = 1'-0"

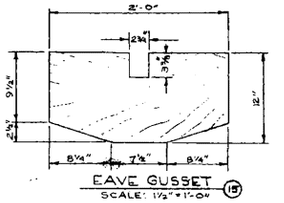


RIDGE BOARD GUSSET (16)
SCALE: 1½" = 1'-0"

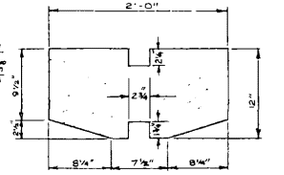


NOTE: BEVELED EDGE TO BE FLUSH WITH EXTERIOR FACE OF END RAFTERS.

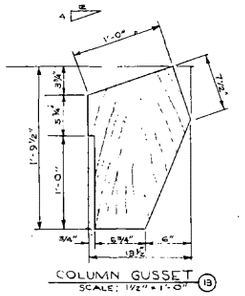
BEVELED BEAM (2)
SCALE: 1½" = 1'-0"



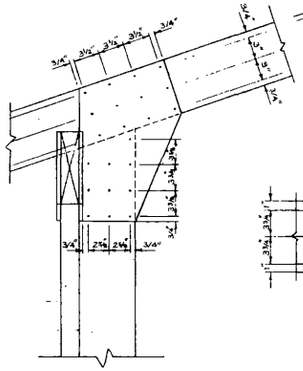
EAVE GUSSET (15)
SCALE: 1½" = 1'-0"

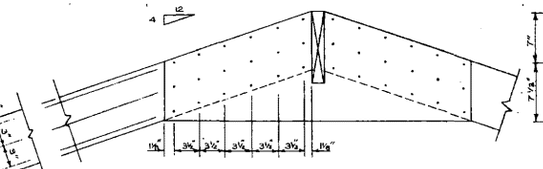


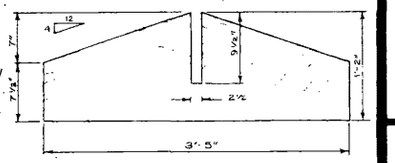
COLUMN GUSSET (14)
SCALE: 1½" = 1'-0"



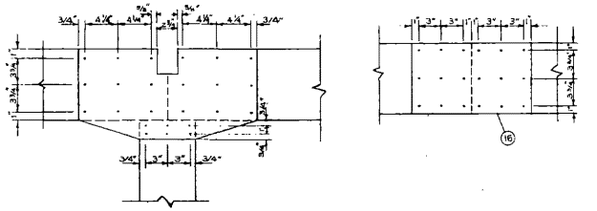
COLUMN GUSSET (13)
SCALE: 1½" = 1'-0"

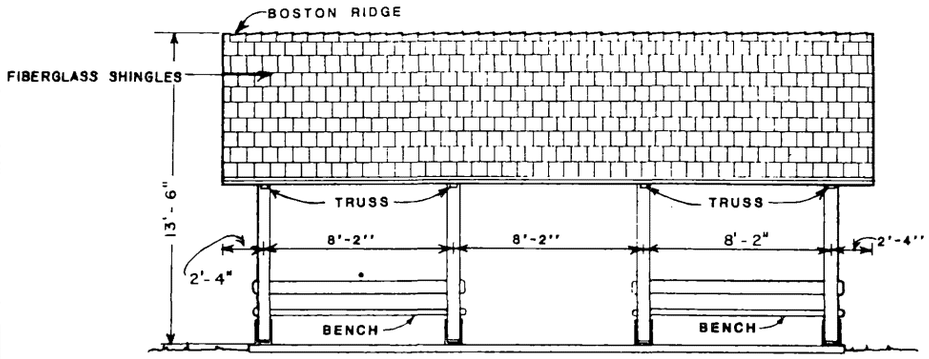




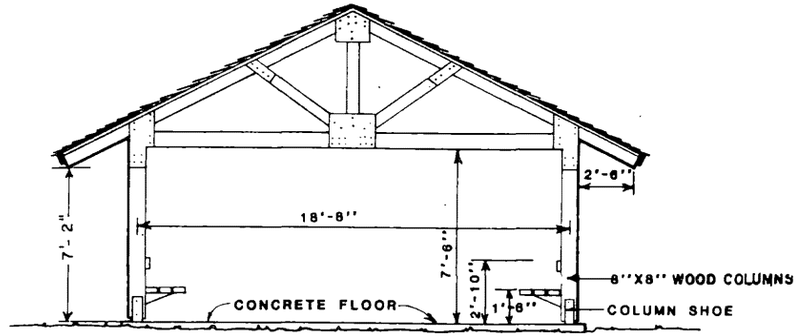


RIDGE GUSSET (12)
SCALE: 1½" = 1'-0"

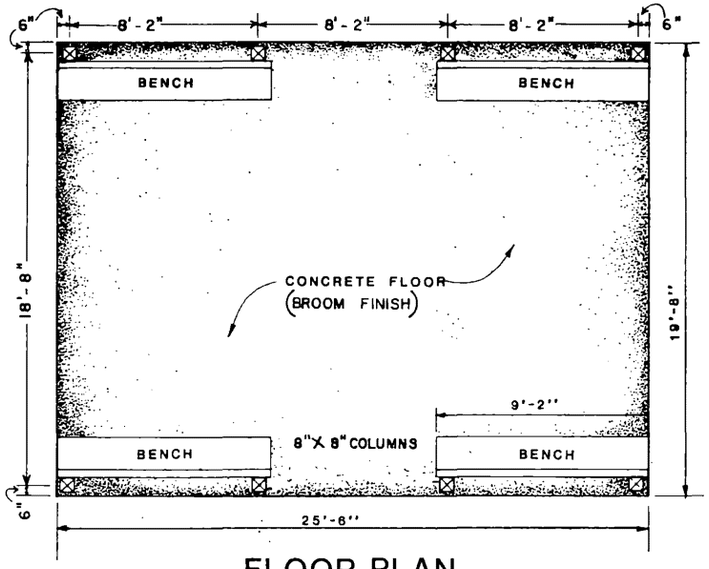

3/4"
4¼"
4¼"
3/4"
4¼"
4¼"
3/4"
3"
3"
3



SIDE ELEVATION



END ELEVATION



FLOOR PLAN

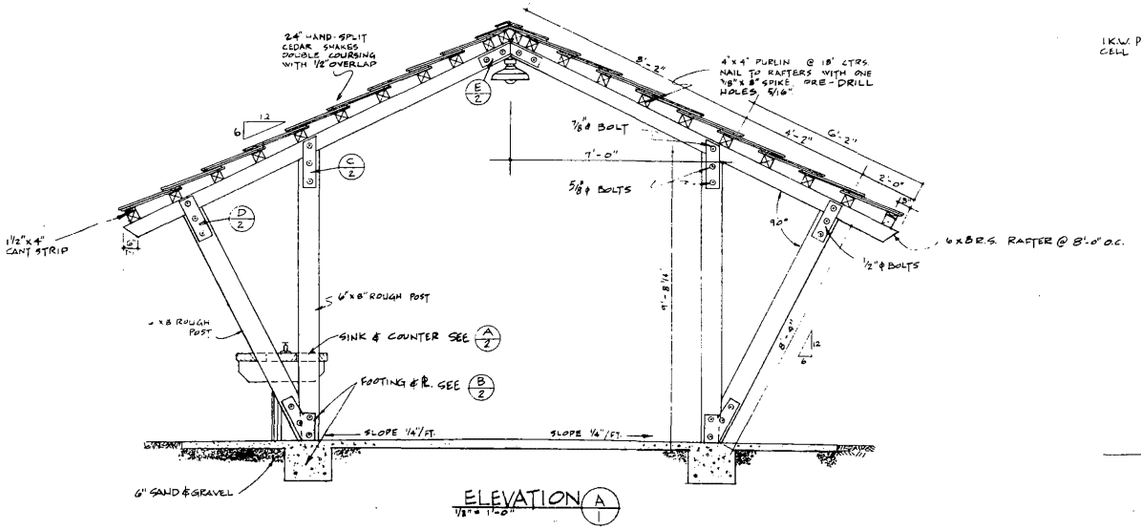
NOTE:
NOT A FULL SET OF DRAWINGS.
CONTACT REGIONAL OFFICE,
ENGINEERING, FOR FULL SET
OF DRAWINGS.

Group Shelter
Planed Timbers

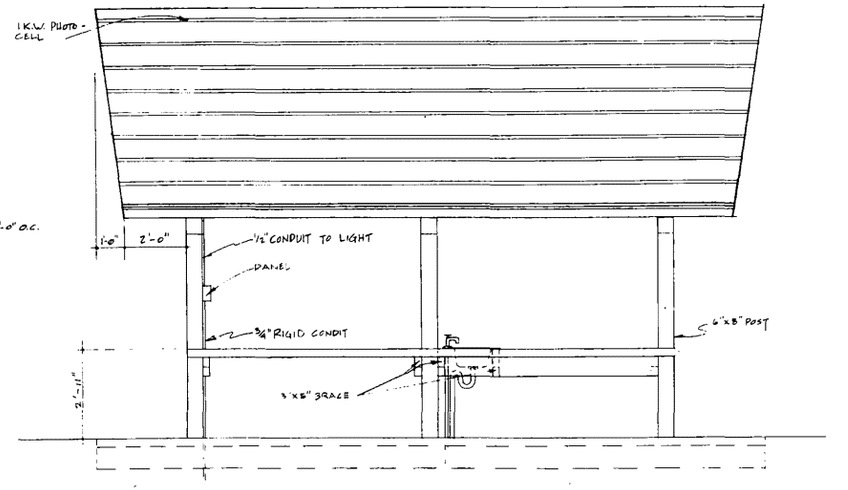
1 of 1

R-8
PI.B-7701
□Details Complete
■Details Incomplete

Forest Service · USDA


24" HAND-SPLIT CEDAR SHAKES DOUBLE COURSING WITH 1½" OVERLAP
4"x4" PURLIN @ 18" CTRS. NAIL TO RAFTERS WITH ONE 16d x 8" SPIKE PRE-DRILL HOLES, 5/16"
7/8ø BOLT
5/8ø BOLTS
1½"x4" CANT STRIP
6"x8" ROUGH POST
SINK & COUNTER SEE A/2
FOOTING & R. SEE B/2
SLOPE 1/4"/FT.
6"x8" RUNNING BRACE
6"x8" ROUGH POST
6"x8" R.S. RAFTER @ 8'-0" O.C.
½"ø BOLTS
6" SAND & GRAVEL

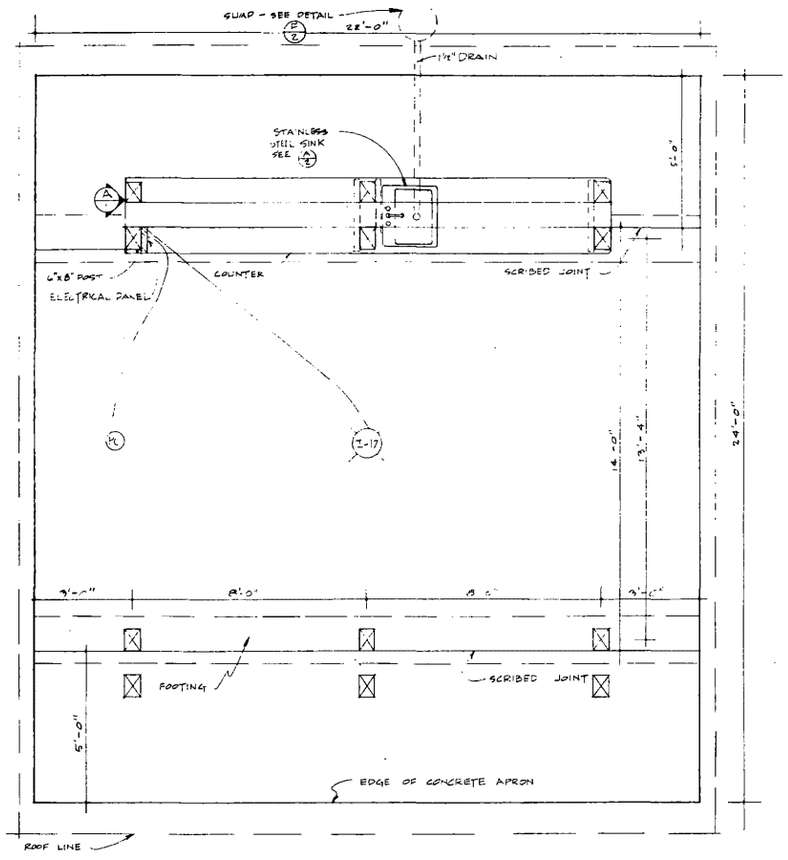
ELEVATION A/1
1/8" = 1'-0"



ELEVATION
1/2" = 1'-0"

PAINTING NOTE:

1. SHAKES SHALL NOT BE STAINED OR PAINTED.
2. RAFTERS, PURLINS, POSTS, AND BRACING SHALL BE STAINED DARK BROWN.
3. METAL WORK SHALL BE PAINTED WITH OIL BASE PAINT MATCHING COLOR OF RAFTERS, POSTS, AND BRACING.
4. COUNTER TOP AND EDGES SHALL BE SANDED AND PAINTED WITH FOUR COATS OF "REXPAR" SPAR VARNISH.
5. ALL WIRING SHALL BE THW IN EMT



FLOOR PLAN
1/2" = 1'-0"

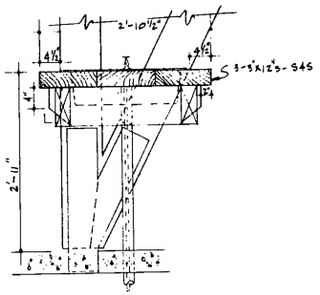
Picnic Shelter
22 ft. x 24 ft.
Wood Frame

1 of 2

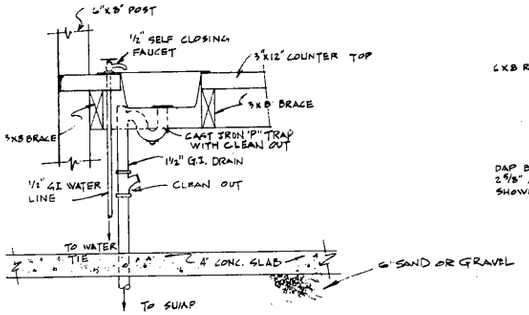
R-6
Plan 1552
■ Details Complete
□ Details Incomplete

Forest Service · USDA

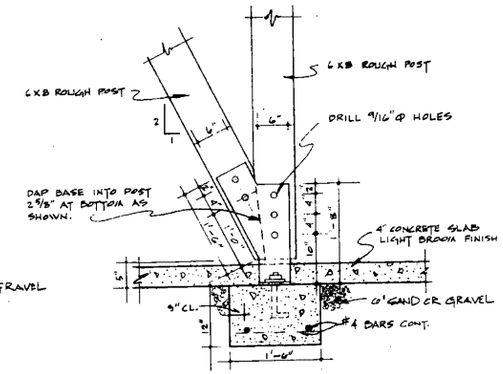
FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE

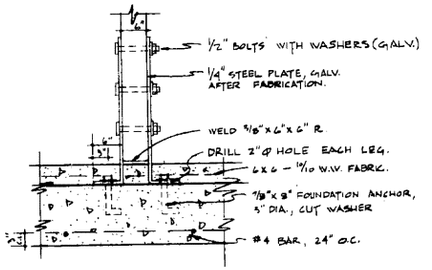


SECTION A-1/2
SCALE 1"=1'-0"

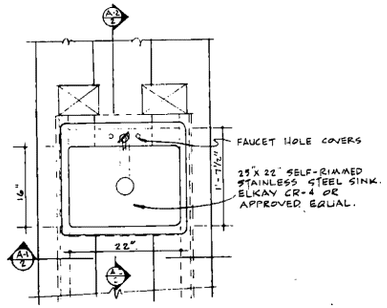


SECTION A-2/2
SCALE 1"=1'-0"

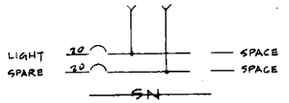



½" BOLTS WITH WASHERS (GALV.)
¼" STEEL PLATE, GALV. AFTER FABRICATION.
WELD ⅜"X6"X6" R.
DRILL 2"Ø HOLE EACH LEG.
6X6 - 1/10 W.W. FABRIC.
⅞"X8" FOUNDATION ANCHOR, 3" DIA., CUT WASHER
#4 BAR, 24" O.C.

FOOTING & POST PLATE DETAIL B/2
SCALE 1"=1'-0"

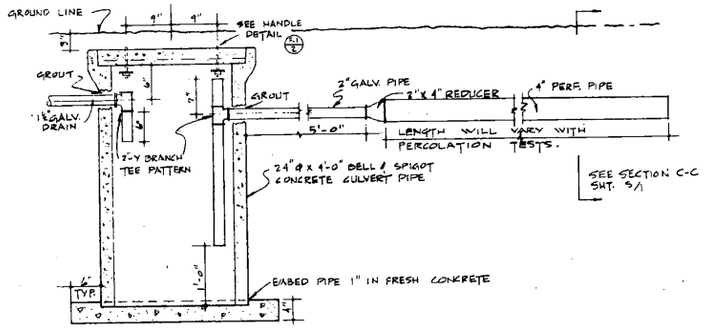


SINK DETAIL A/2
SCALE 1"=1'-0"



PANEL DIRECTORY

3 WIRE, S.N., 120/240V, SINGLE PHASE A.C., 100A. LUGS IN MAIN ONLY. NEMA-3 ENCLOSURE WITH LOCKING COVER.



SUMP DETAIL F/2
SCALE 1"=1'-0"

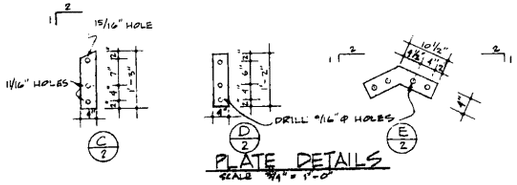
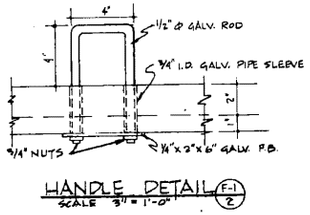


PLATE DETAILS
SCALE 3/4" = 1'-0"

NOTE:
1. MAKE FROM ¼" R. GALV. AFTER FABRICATION.
2. USE ONE R. EACH SIDE OF JOINT.



HANDLE DETAIL F-1/2
SCALE 3"=1'-0"

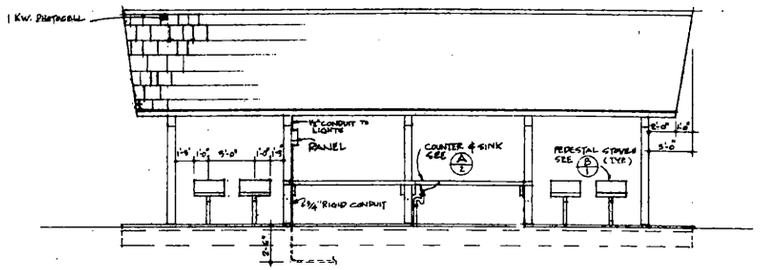
NOTE:
1. AFTER CONTINUOUS FTG. IS IN PLACE, POSITION AND ANCHOR FOOTING TO POST PLATE FOR LINE AND GRADE, THEN POUR FLOOR SLAB MONOLITHICALLY TO BOTTOM OF WOOD MEMBER BEARING PLATE.

Picnic Shelter
22 ft. x 24 ft.
Wood Frame : Details

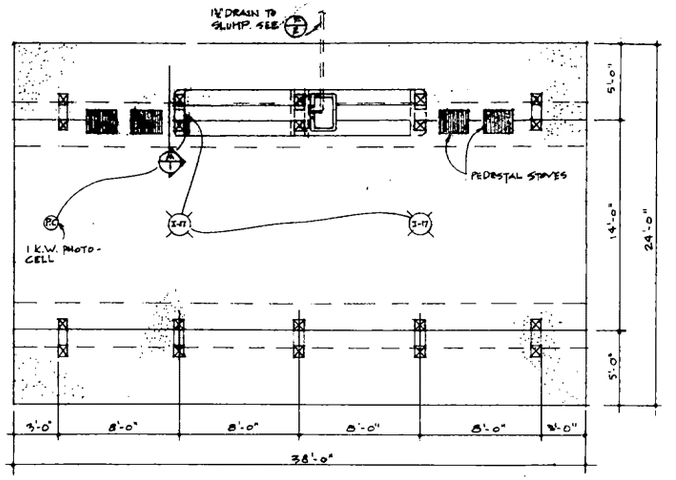
2 of 2

R-6
Plan 1562
■ Details Complete
□ Details Incomplete

Forest Service · USDA



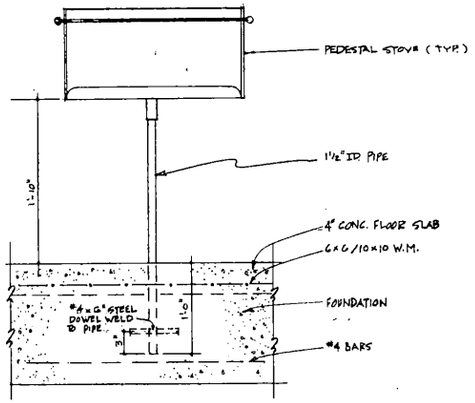
REAR ELEVATION
1/4" = 1'-0"



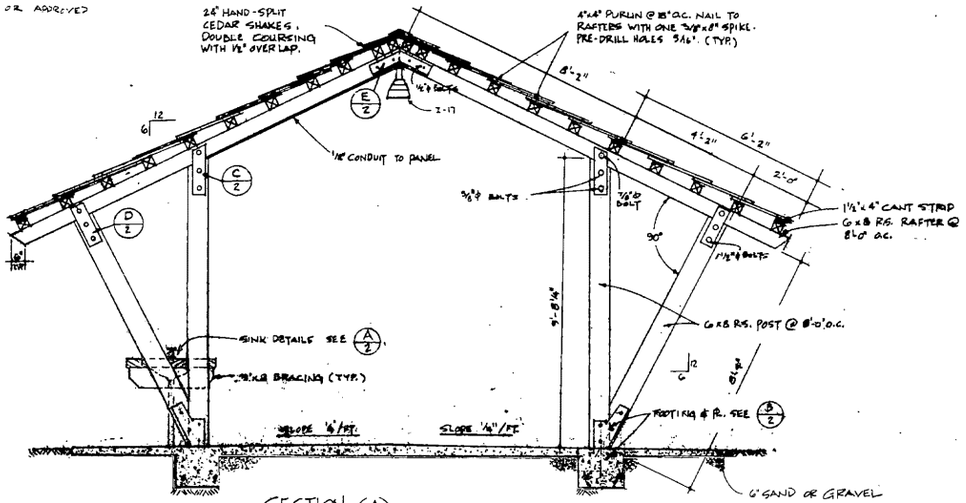
FLOOR PLAN
1/4" = 1'-0"

NOTES:

1. SHAKES SHALL NOT BE STAINED OR PAINTED.
2. RAFTERS, PURLINS, POST & BRACING SHALL BE STAINED DARK BROWN.
3. METAL WORK SHALL BE PAINTED WITH OIL BASE PAINT MATCHING COLOR OF NOTE # 2.
4. COUNTER TOP & EDGES SHALL BE SANDED & PAINTED WITH FOUR COATS OF 'REXPAR' SPAR VARNISH.
5. ALL WIRING SHALL BE THW IN EMT
6. PEDESTAL STOVE SHALL BE BELSON - CHAR-WOOD OR APPROVED EQUAL.



PEDESTAL STOVE DETAIL B/1
1 1/2" = 1'-0"


26" HAND-SPLIT CEDAR SHAKES, DOUBLE COURSING WITH 10" OVER LAP.
4" x 8" PURLIN @ 15" O.C. NAIL TO RAFTERS WITH ONE 3/8" x 8" SPIKE. PRE-DRILL HOLES 5/16". (TYP.)
8'-2"
6'-2"
4'-2"
2'-0"
6 | 12
1/2" BOLTS
I-17
1/2" CONDUIT TO PANEL
5/8" BOLTS
1/2" BOLT
1 1/2" x 4" CANT STRIP
6 x 8 RG. RAFTER @ 8'-0" OC.
90°
1 1/2" BOLTS
6 x 8 RS. POST @ 8'-0" O.C.
5'-8 1/4"
SINK DETAILS SEE A/2
6 x 8 RS. BRACING (TYP.)
SLOPE 1/4"/FT.
SLOPE 1/4"/FT.
FOOTING & R. SEE B/2
6" SAND OR GRAVEL

SECTION A/1
1/2" = 1'-0"

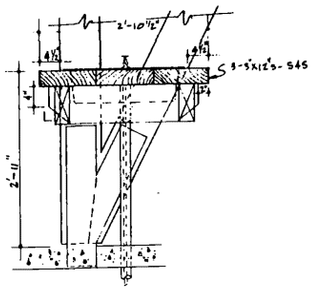
Kitchen / Picnic Shelter
38 ft. x 24 ft.
Wood Frame

1 of 2

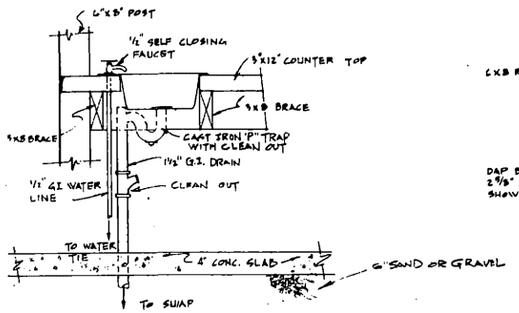
R-6
Plan 1551
■ Details Complete
□ Details Incomplete

Forest Service • USDA

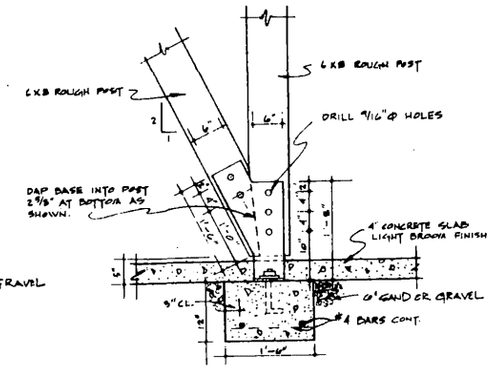
FOREST SERVICE USDA DEPARTMENT OF AGRICULTURE

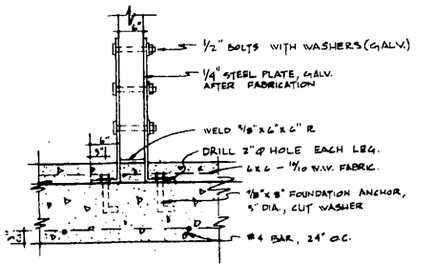


SECTION (A-1/2)
SCALE 1"=1'-0"

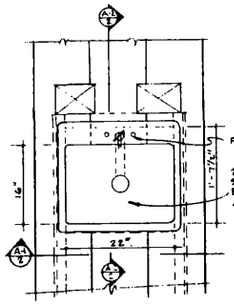


SECTION (A-2/2)
SCALE 1"=1'-0"

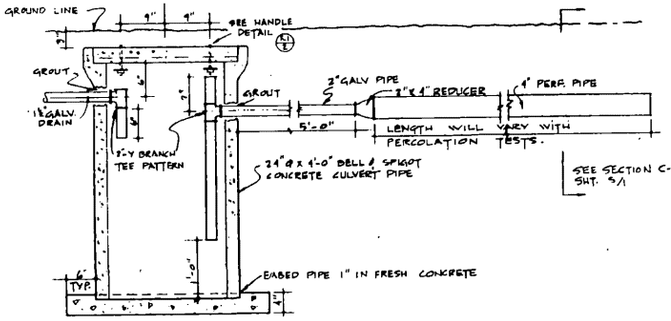



½" BOLTS WITH WASHERS (GALV.)
¼" STEEL PLATE, GALV. AFTER FABRICATION
WELD ⅜"x6"x6" R
DRILL 2" Ø HOLE EACH LEG.
6X6 - 1/10 W.W. FABRIC.
⅞"x8" FOUNDATION ANCHOR, 5" DIA., CUT WASHER
#4 BAR, 24" O.C.

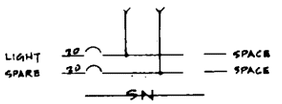
FOOTING & POST PLATE DETAIL (B/2)
SCALE 1"=1'-0"



SINK DETAIL (A/2)
SCALE 1"=1'-0"

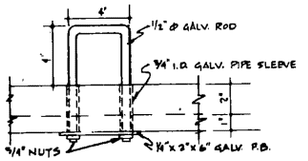


SUMP DETAIL (E/2)
SCALE 1"=1'-0"



PANEL DIRECTORY

3 WIRE, S.N., 120/240V, SINGLE PHASE A.C., 100A, LUGS IN MAIN ONLY. NEMA-3 ENCLOSURE WITH LOCKING COVER.



HANDLE DETAIL (F-1/2)
SCALE 3"=1'-0"

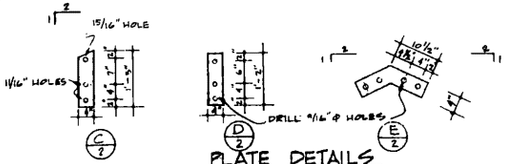


PLATE DETAILS (C/2, D/2, E/2)
SCALE ¾"=1'-0"

NOTE:
1. BRAKE FROM ¼" R. GALV. AFTER FABRICATION.
2. USE ONE R. EACH SIDE OF JOINT.

NOTE:
1. AFTER CONTINUOUS FTG. IS IN PLACE, POSITION AND ANCHOR FOOTING TO POST PLATE FOR LINE AND GRADE, THEN POUR FLOOR SLAB MONOLITHICALLY TO BOTTOM OF WOOD (RUBBER BEARING) PLATE.

Kitchen / Picnic Shelter
38 ft. x 24 ft.
Wood Frame : Details

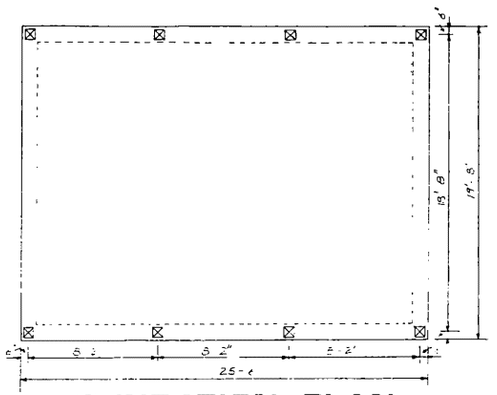
2 of 2

R-6
Plan 1551

■ Details Complete
□ Details Incomplete

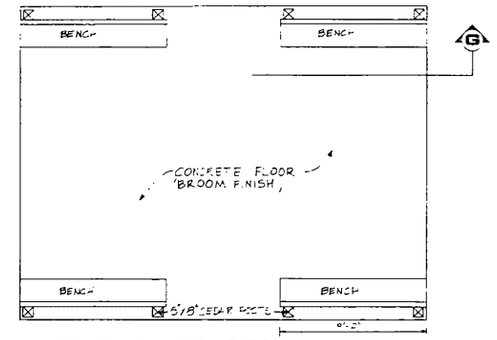
Forest Service · USDA

FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE



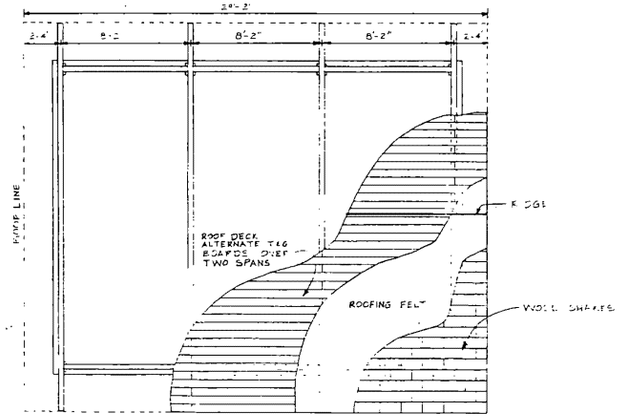
FOUNDATION PLAN

SCALE 1/4"=1'-0"

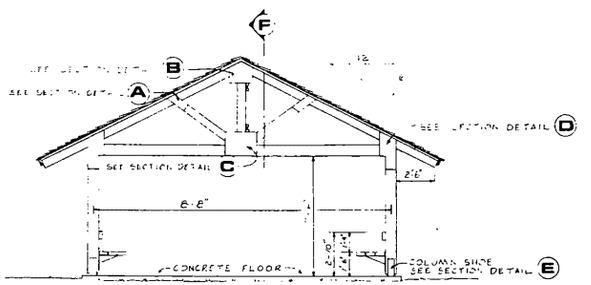


FLOOR PLAN

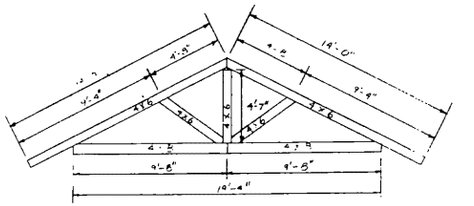
SCALE 1/4"=1'-0"



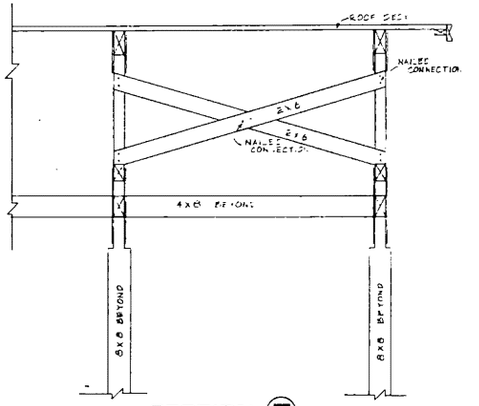
ROOF PLAN



END ELEVATION

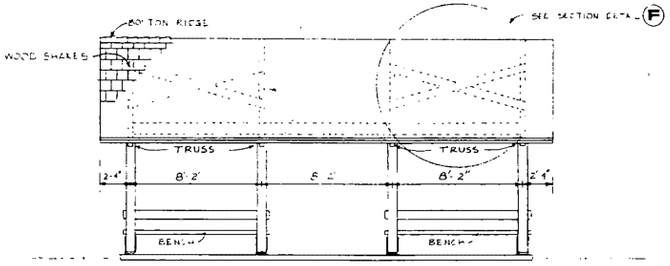


TRUSS LAYOUT



SECTION F

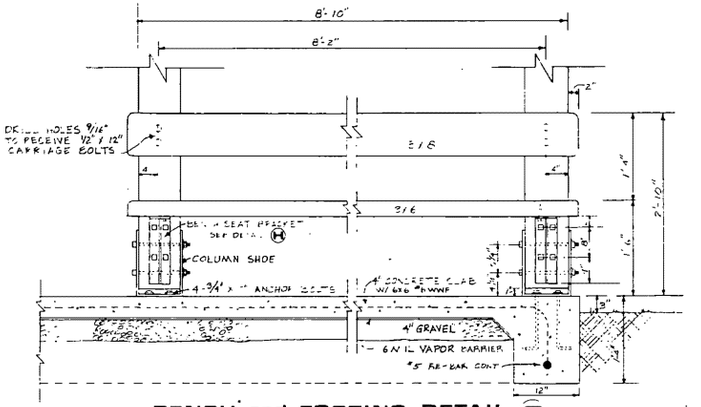
SCALE 1/2"=1'-0"



SIDE ELEVATION

GENERAL NOTE:

1. ALL 8X8 COLUMNS 4X6 AND 4X8 BEAMS SHALL BE ROUGH SAWN NOMINAL DIMENSION AS ON THE DRAWINGS.



BENCH and FOOTING DETAIL G

SCALE 1"=1'-0"

Picnic Shelter

Planed Timbers

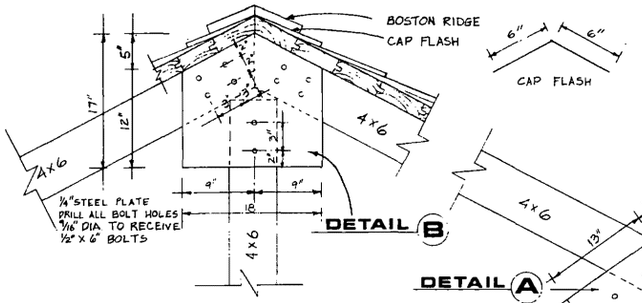
1 of 2

R-8
B-7701

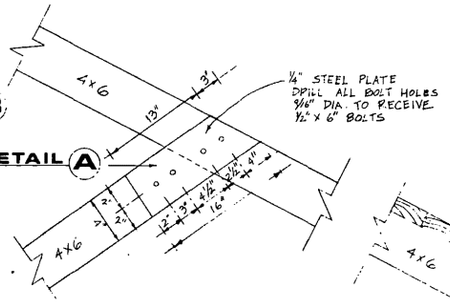
■ Details Complete
□ Details Incomplete

Forest Service · USDA

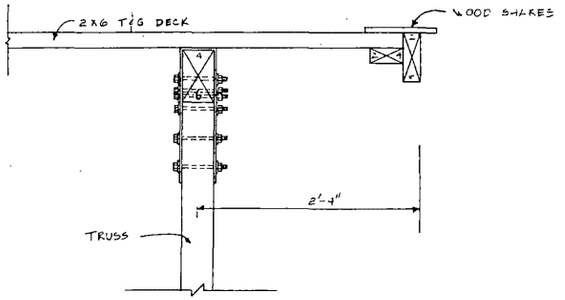
FOREST SERVICE · DEPARTMENT OF AGRICULTURE



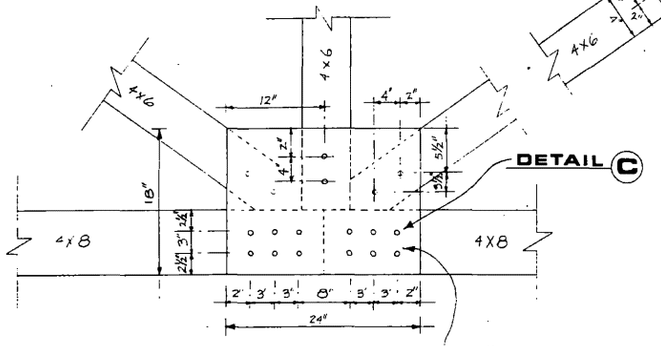
DETAIL B



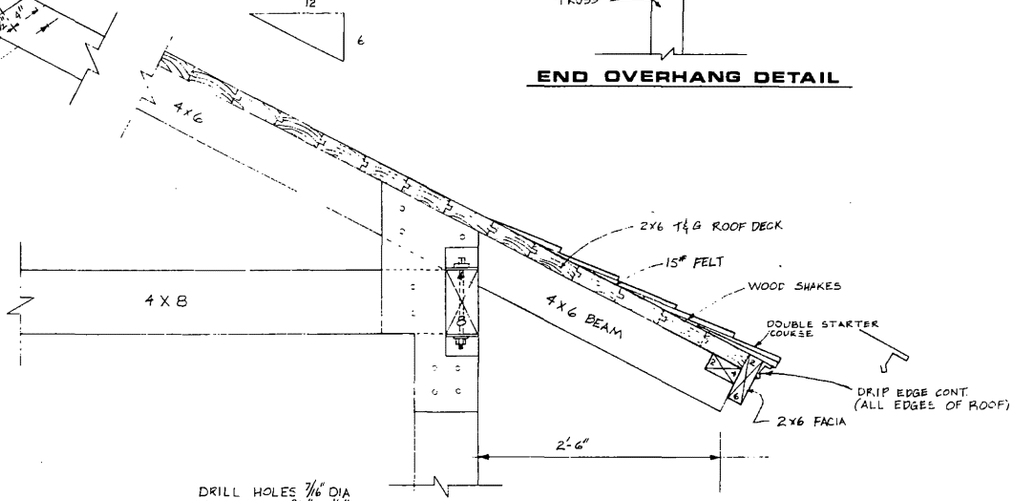
DETAIL A



END OVERHANG DETAIL



DETAIL C



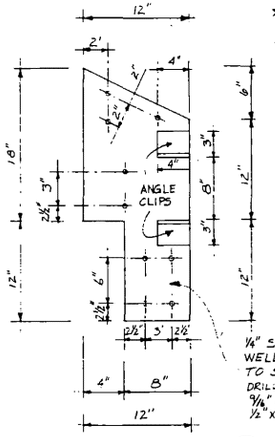
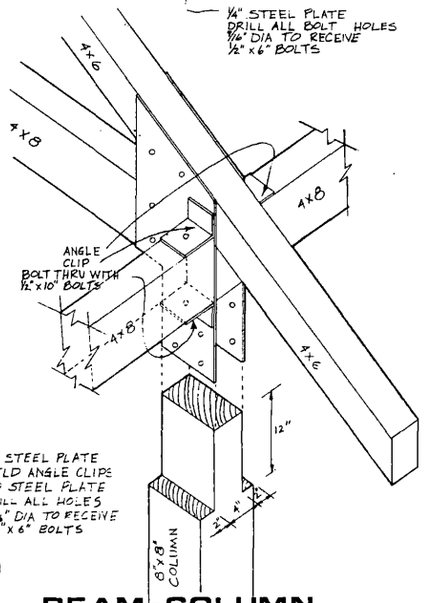
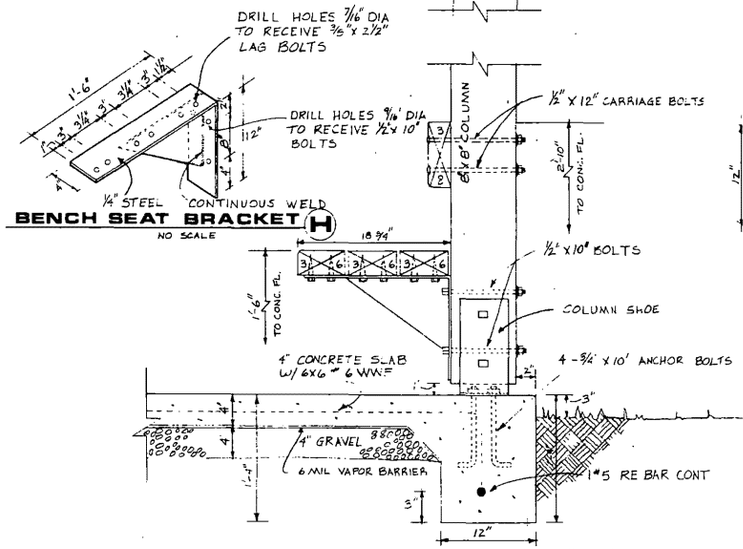


PLATE DETAIL D
SCALE 1½"=1'-0"

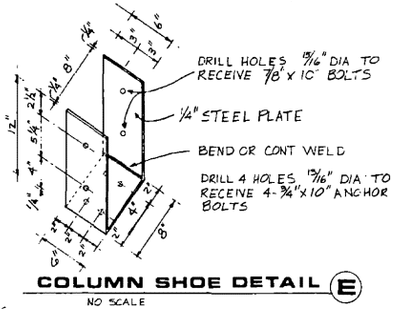


BEAM-COLUMN CONNECTION
NO SCALE



BENCH SEAT BRACKET H
NO SCALE

TYPICAL SECTION
SCALE 1½"=1'-0"



COLUMN SHOE DETAIL E
NO SCALE

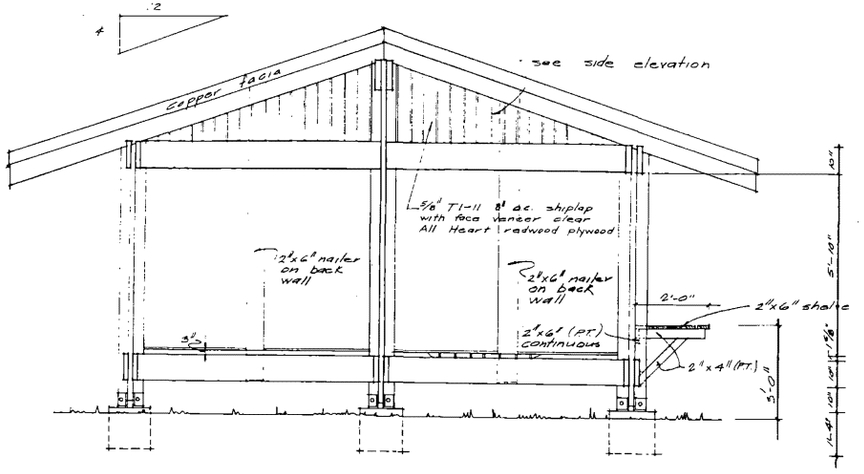
Picnic Shelter
Planed Timbers · Details

2 of 2

R-8
B-7701
■ Details Complete
□ Details Incomplete

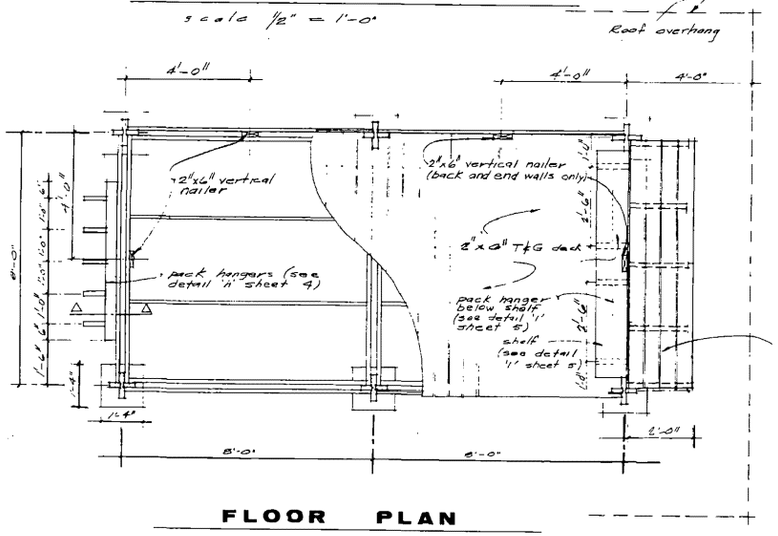
Forest Service · USDA

FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE



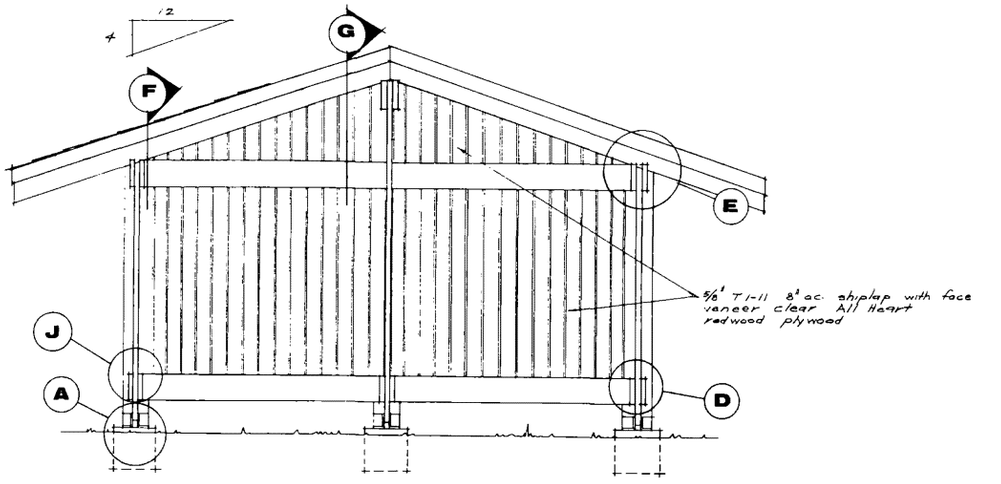
FRONT ELEVATION

scale 1/2" = 1'-0"



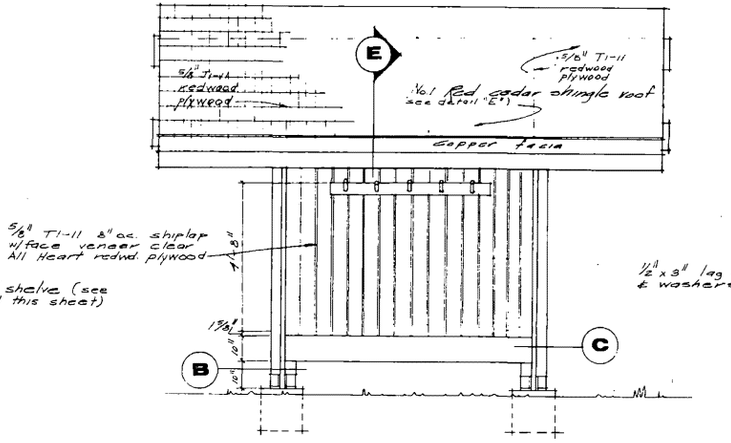
FLOOR PLAN

scale 1/2" = 1'-0"



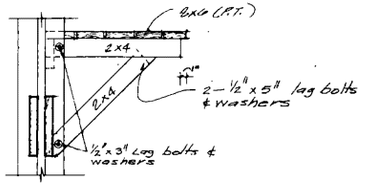
REAR ELEVATION

scale 1/2" = 1'-0"

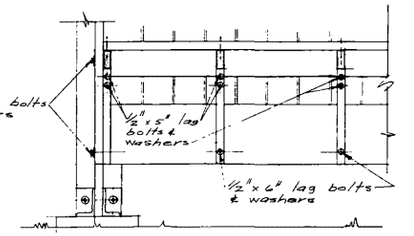

E
5/8" T1-11 redwood plywood
5/8" T1-11 redwood plywood
1/01 Red cedar shingle roof see detail 'E'
copper facia
5/8" T1-11 8" oc. shiplap w/face veneer clear All Heart redwd. plywood
B
C

SIDE ELEVATION

scale 1/2" = 1'-0"



Side View



Front View

DETAIL (shelve)

scale 1" = 1'-0"

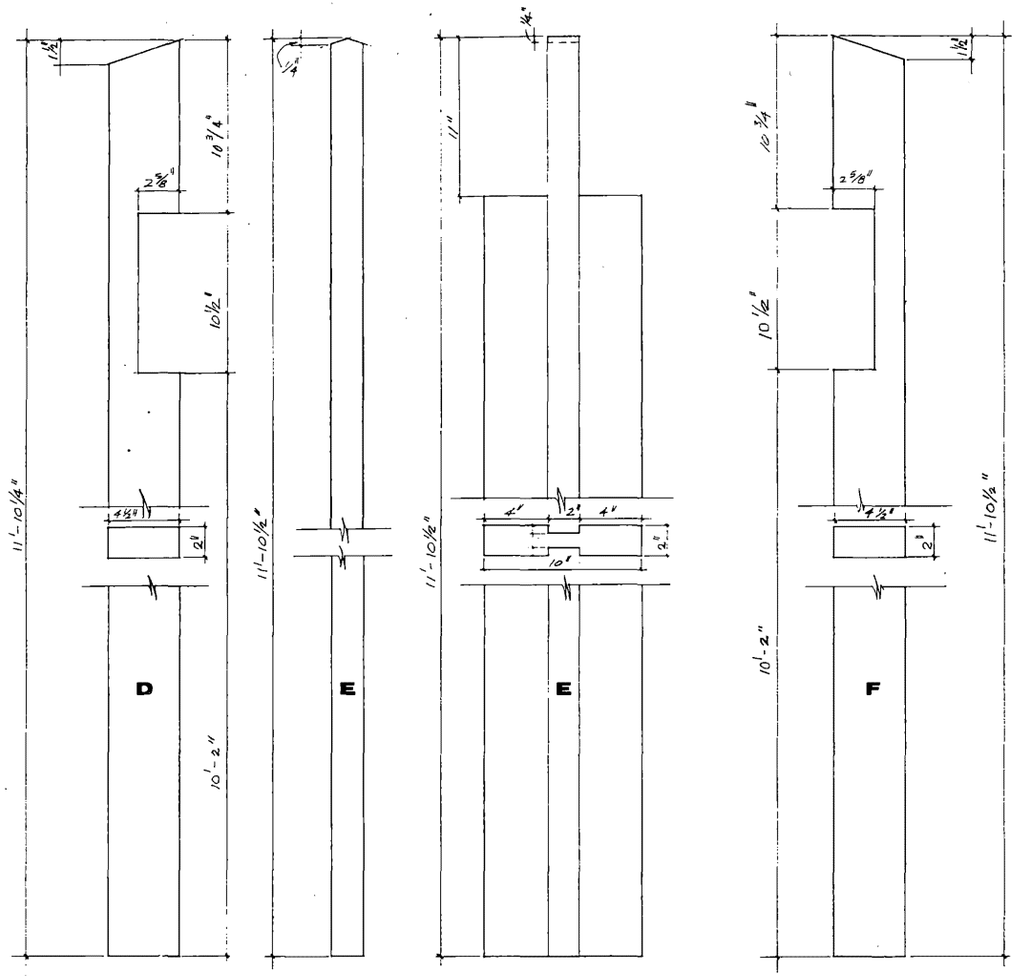
Appalachian Trail Shelter AT-1 Plan and Elevations

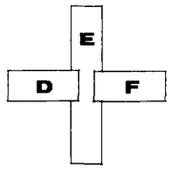
1 of 4

R-8
B-7012
■ Details Complete
□ Details Incomplete

Forest Service · USDA

FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE





CENTER COLUMN

scale 3/4" = 1'-0"

Wood Stains

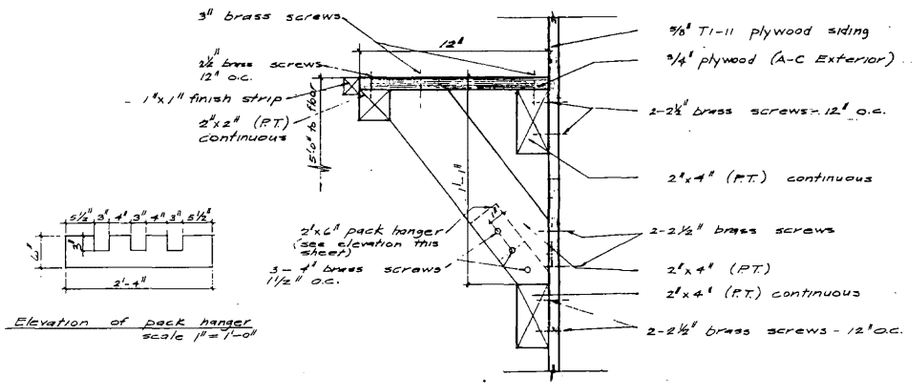
1. Panels — Cabot's Bar-Dk Penta Wood Seal or equal
2. Columns, Beams & Deck — RH-152 Adobe by Cabot or equal

Lumber

1. All lumber shall be pressure treated (paintable penta) southern yellow pine rough sawn to dimensions specified.
2. Plywood shall be 5/8" T1-11 8" o.c. shiplap with face veneer clear All Heart redwood plywood

Connectors

1. Column anchors shall be A-588 steel ('Cor-ten')
2. All bolts shall be 'Weath-R' bolts with matching nuts and washers by Bethlehem Steel or equal.
3. Wood screws shall be brass Flat head #8 (1/8" x 3")
4. All nails shall be hot dipped, galvanized, zinc coated, aluminum or equal. The panels shall be installed using finishing nails; blind nailing where possible. Shingle roof shall be installed with 4d ring shank nails.
5. Facia shall be 16 oz. copper sheet all joints shall be soldered.



Elevation of pack hanger
scale 1" = 1'-0"

(1) DETAIL (shelve)

scale 3/4" = 1'-0"

Appalachian Trail Shelter AT-1

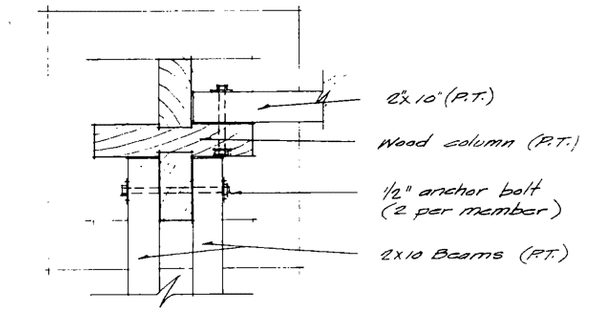
Details

4 of 4

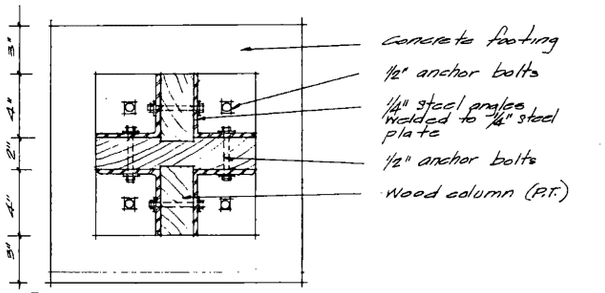
R-8
B-7012

■ Details Complete
□ Details Incomplete

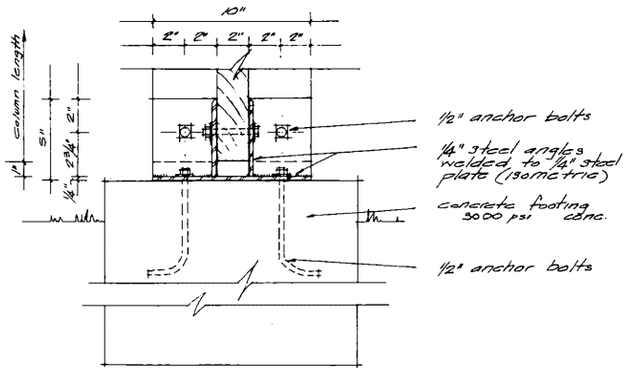
Forest Service • USDA



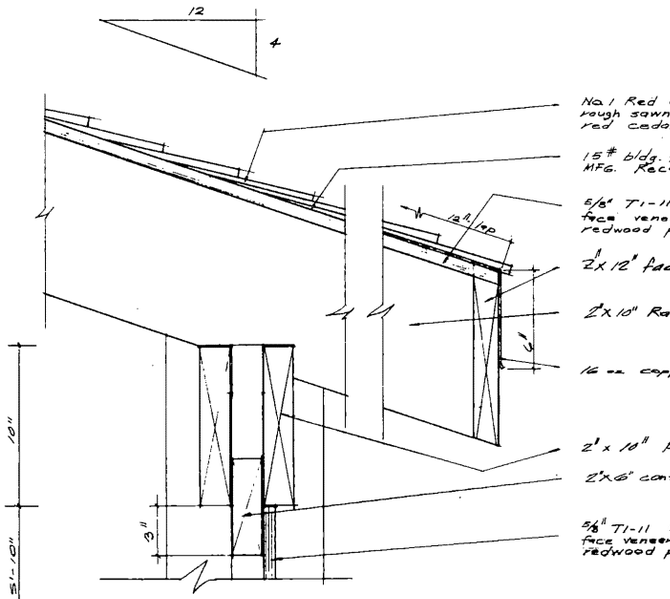
C DETAIL
scale 3" = 1'-0"



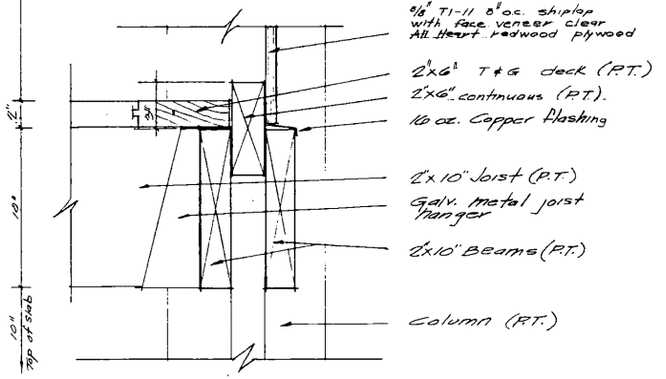
B DETAIL
scale 3" = 1'-0"



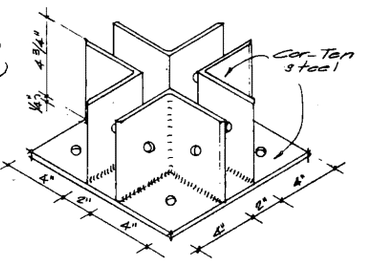
A DETAIL
scale 3" = 1'-0"


12
4
No 1 Red Cedar shingles, handsplit and rough sawn (install in accordance with red cedar shingle handbook)
15# bldg. felt (see shingle MFG. Recomendations)
5/8" T1-11 8" oc. shiplap with face veneer clear All Heart redwood plywood (face inside)
2"x 12" facia (P.T.)
2"x 10" Rafters (P.T.)
16 oz copper flashing
2"x 10" Beams (P.T.)
2"x6" continuous (P.T.)
5/8" T1-11 8" oc. shiplap with face veneer clear All Heart redwood plywood
12 ft
4"
10"
51'-10"
3"

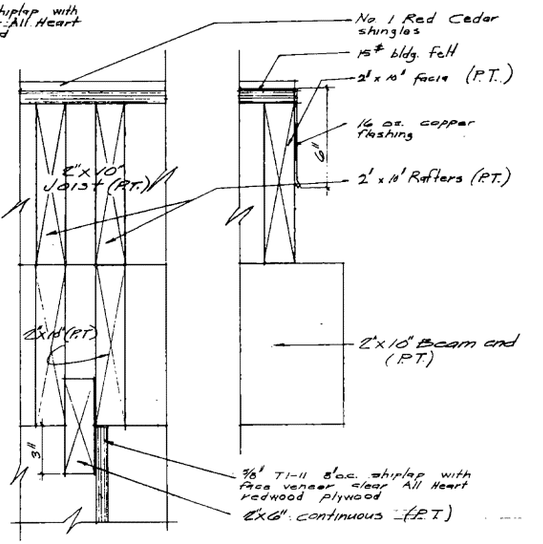
E DETAIL
scale 3" = 1'-0"



D DETAIL
scale 3" = 1'-0"



COLUMN SHOE
No scale


No 1 Red Cedar shingles
15# bldg. felt
2" x 10" facia (P.T.)
16 oz. copper flashing
2" x 10" Rafters (P.T.)
2"x 10" Joist (P.T.)
2"x10" Beam and (P.T.)
3"
5/8" T1-11 8" oc. shiplap with face veneer clear All Heart redwood plywood
2"x6" continuous (P.T.)

F DETAIL
scale 3" = 1'-0"

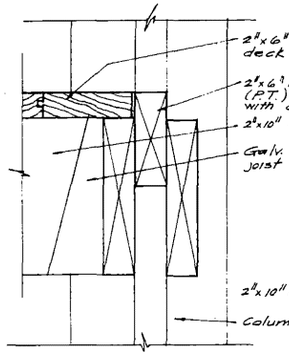
Appalachian Trail Shelter AT-1

Details

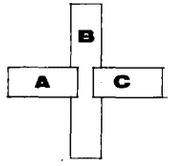
2 of 4

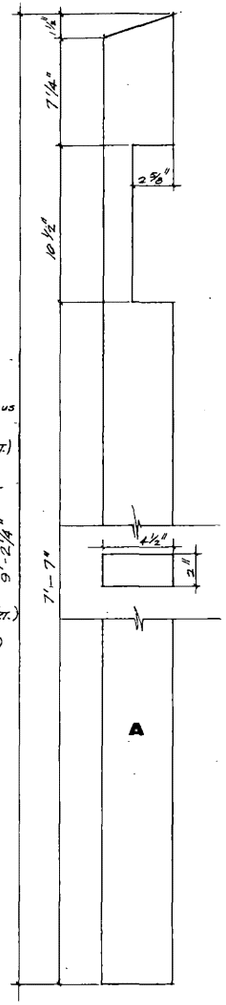
R-8
B-7012
■ Details Complete
□ Details Incomplete

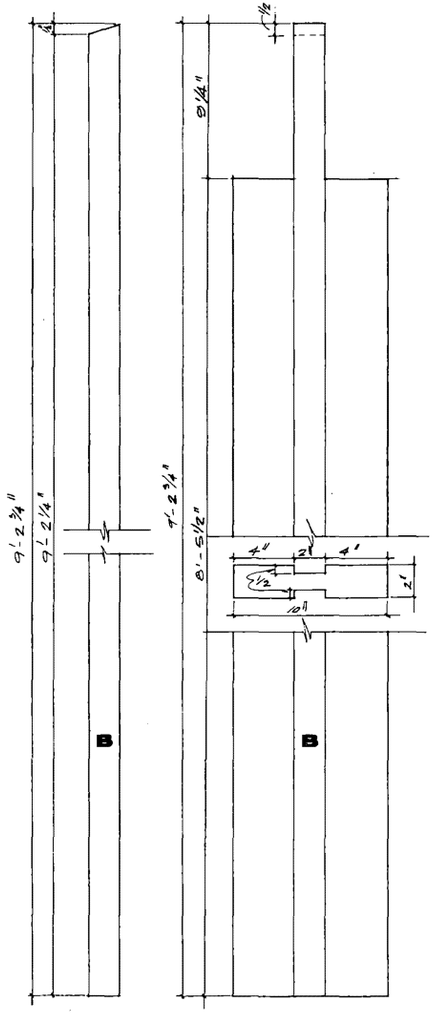
Forest Service · USDA

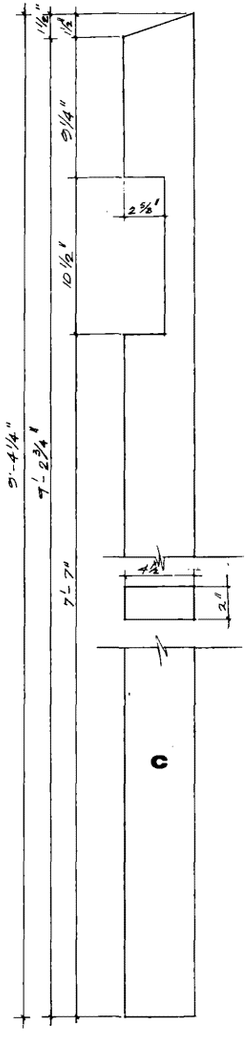


J DETAIL
scale 3" = 1'-0"

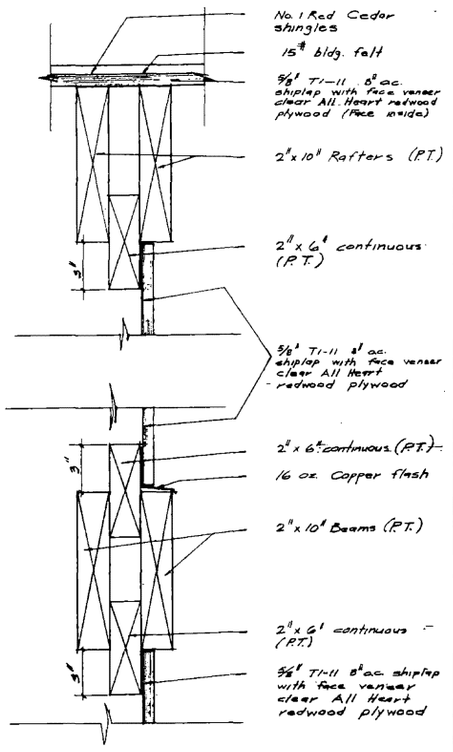




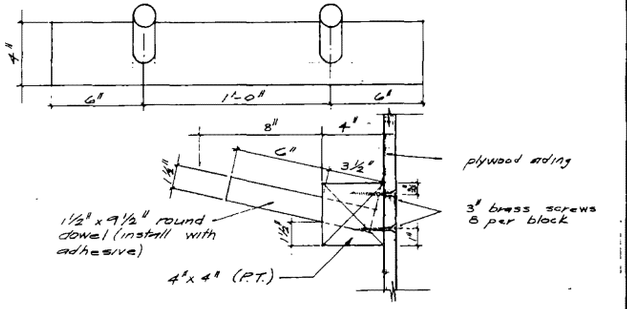




CORNER COLUMNS
scale 3" = 1'-0"


No. 1 Red Cedar shingles
15# bldg. felt
⅝" T1-11 8" oc. shiplap with face veneer clear All Heart redwood plywood (Face inside)
2"x10" Rafters (P.T.)
2"x6" continuous (P.T.)
3"
⅝" T1-11 8" oc. shiplap with face veneer clear All Heart - redwood plywood
2"x6" continuous (P.T.)
16 oz. Copper flash
2"x10" Beams (P.T.)
2"x6" continuous (P.T.)
⅝" T1-11 8" oc. shiplap with face veneer clear All Heart redwood plywood

Q DETAIL
scale 3" = 1'-0"



H DETAIL (pack hanger)
scale 3" = 1'-0"

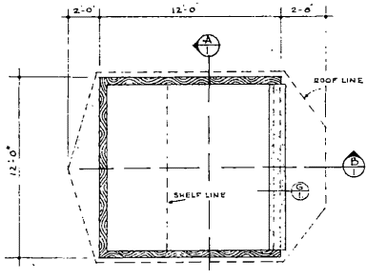
Appalachian Trail Shelter AT-1

Details

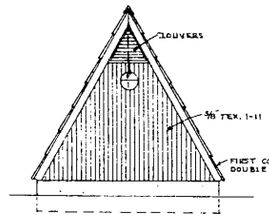
3 of 4

R-8
B-7012
■ Details Complete
□ Details Incomplete

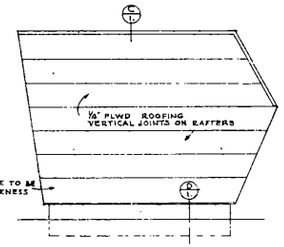
Forest Service · USDA



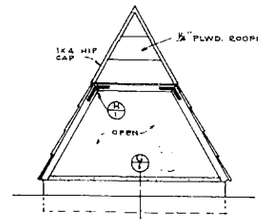
FLOOR PLAN



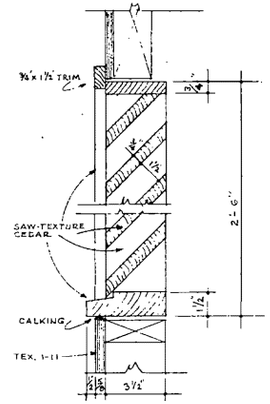
REAR ELEV.



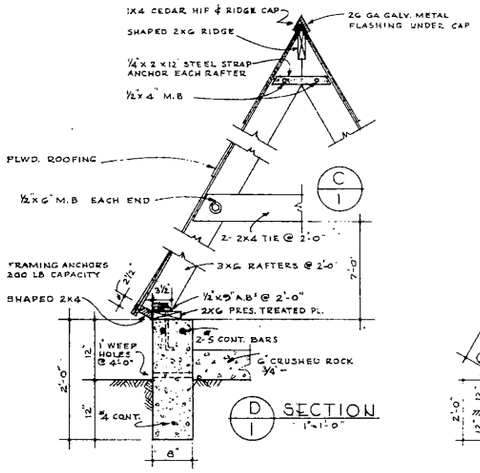
SIDE ELEV.
¼"=1'-0"



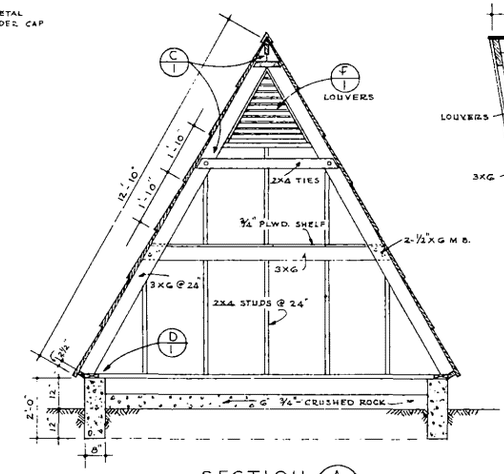
FRONT ELEV.



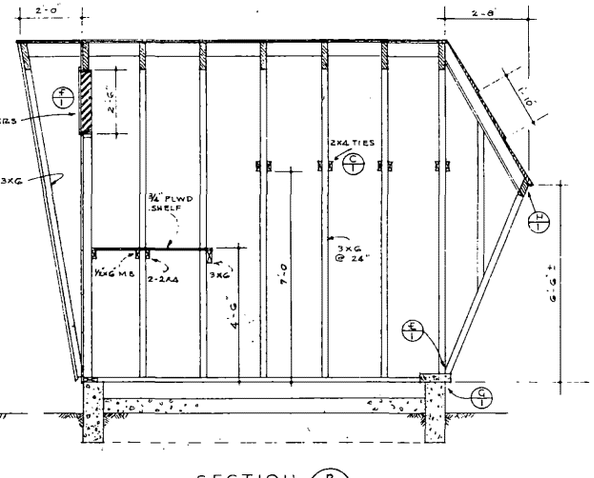
LOUVERS F/1



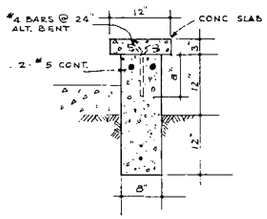
SECTION
1"=1'-0"



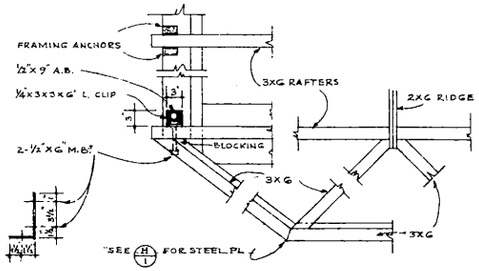
SECTION A/1
½"=1'-0"



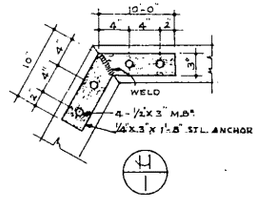
SECTION B/1
½"=1'-0"



SECTION G/1
1"=1'-0"



FRAMING PLAN E/1
1"=1'-0"



H/1

DESIGNED FOR 88 P.S.F SNOW LOAD

Trail Shelter
Wood "A" Frame Style

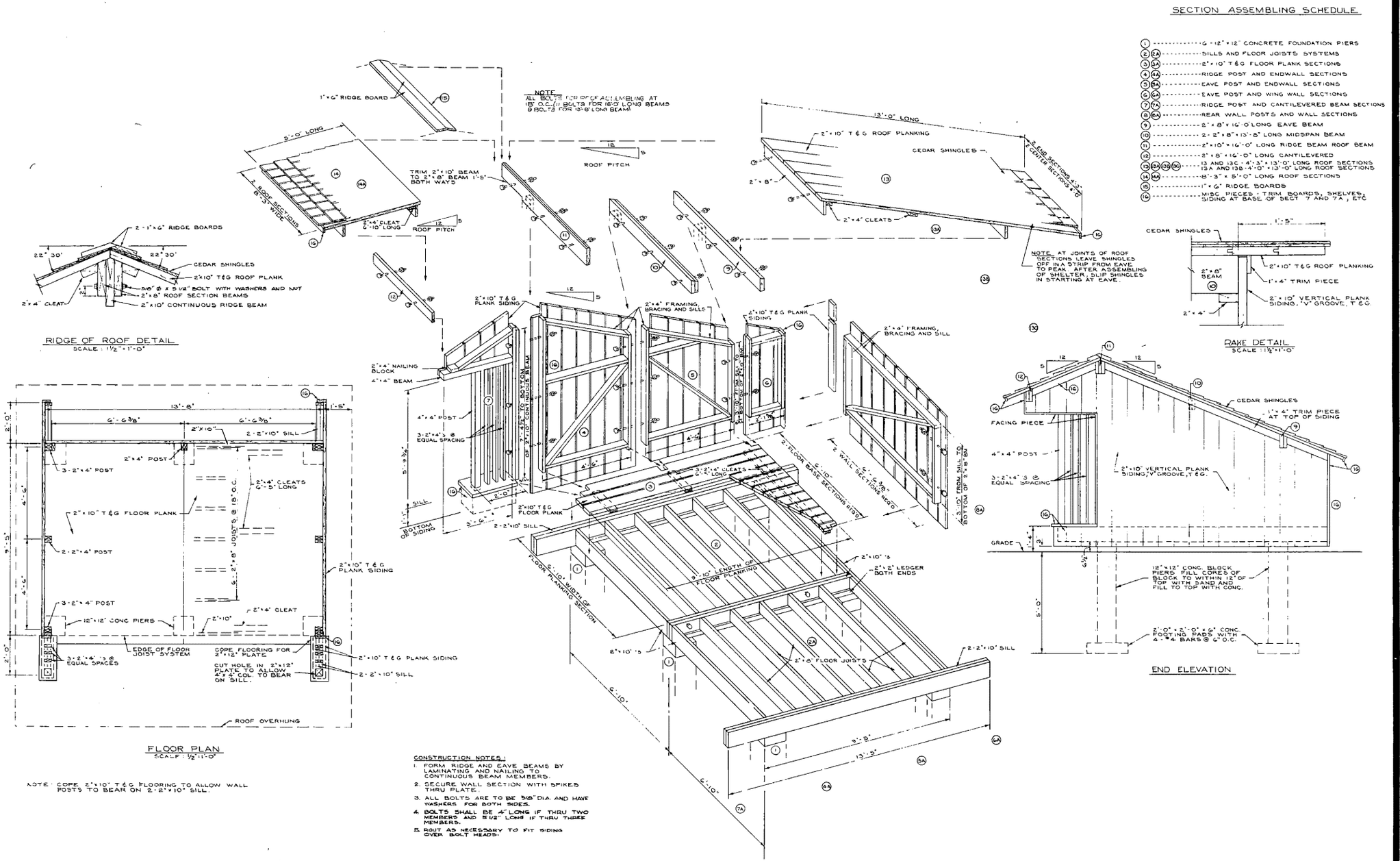
1 of 1

R-6
1553

■ Details Complete
□ Details Incomplete

Forest Service · USDA

Adirondack Shelter Wood Frame With Wood Exterior

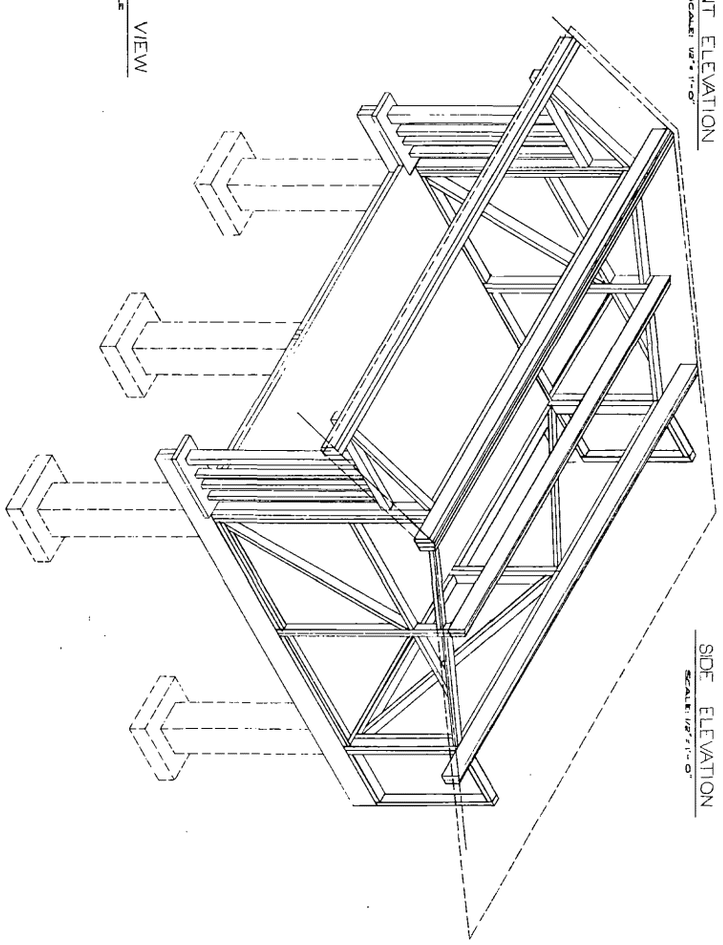

SECTION ASSEMBLING SCHEDULE
1 ..... 6 - 12" x 12" CONCRETE FOUNDATION PIERS
2 2A ..... SILLS AND FLOOR JOISTS SYSTEMS
3 3A ..... 2" x 10" T & G FLOOR PLANK SECTIONS
4 4A ..... RIDGE POST AND ENDWALL SECTIONS
5 5A ..... EAVE POST AND ENDWALL SECTIONS
6 6A ..... EAVE POST AND WING WALL SECTIONS
7 7A ..... RIDGE POST AND CANTILEVERED BEAM SECTIONS
8 8A ..... REAR WALL POSTS AND WALL SECTIONS
9 ..... 2" x 8" x 12'-0" LONG EAVE BEAM
10 ..... 2 - 2" x 8" x 13'-8" LONG MIDSPAN BEAM
11 ..... 2" x 10" x 14'-0" LONG RIDGE BEAM ROOF BEAM
12 ..... 2" x 8" x 16'-0" LONG CANTILEVERED
13 13A 13B 13C ..... 13 AND 13C - 4'-3" x 13'-0" LONG ROOF SECTIONS 13A AND 13B - 4'-0" x 13'-0" LONG ROOF SECTIONS
14 14A ..... 8'-3" x 5'-0" LONG ROOF SECTIONS
15 ..... 1" x 6" RIDGE BOARDS
16 ..... MISC. PIECES - TRIM BOARDS, SHELVES, SIDING AT BASE OF SECT. 7 AND 7A, ETC
1" x 6" RIDGE BOARD
5'-0" LONG
ROOF SECTIONS 8'-3" WIDE
2" x 4" CLEAT 6'-10" LONG
ROOF PITCH 12 5
TRIM 2" x 10" BEAM TO 2" x 8" BEAM 1'-5" BOTH WAYS
NOTE
ALL BOLTS TOP OF ALL ASSEMBLING AT 18" O.C. // BOLTS FOR 16'-0 LONG BEAMS @ BOLTS FOR 13'-8" LONG BEAM
13'-0" LONG
2" x 10" T & G ROOF PLANKING
CEDAR SHINGLES
2 END SECTIONS 4'-3" 2 CENTER SECTIONS 8'-6"
2" x 8"
2" x 4" CLEATS
NOTE: AT JOINTS OF ROOF SECTIONS LEAVE SHINGLES OFF IN A STRIP FROM EAVE TO PEAK. AFTER ASSEMBLING OF SHELTER, SLIP SHINGLES IN STARTING AT EAVE.
2 - 1" x 6" RIDGE BOARDS
22° 30'
22° 30'
CEDAR SHINGLES
2" x 10" T & G ROOF PLANK
3/8" Ø x 5 1/2" BOLT WITH WASHERS AND NUT
2" x 8" ROOF SECTION BEAMS
2" x 10" CONTINUOUS RIDGE BEAM
2" x 4" CLEAT
RIDGE OF ROOF DETAIL
SCALE: 1 1/2" = 1'-0"
2" x 10" T & G PLANK SIDING
2" x 4" FRAMING, BRACING AND SILLS
2" x 10" T & G PLANK SIDING
2" x 4" NAILING BLOCK
4" x 4" BEAM
4" x 4" POST
3 - 2" x 4" @ EQUAL SPACING
2" x 10" CONTINUOUS BEAM
2" x 4" FRAMING, BRACING AND SILL
2" x 10" T & G FLOOR PLANK
3 - 2" x 4" CLEATS 6'-5" LONG
2" x 10" SILL
BOTTOM OF SIDING
6'-10" FLOOR BASE SECTIONS 4'-0" & 2'-6"
6'-10" WALL SECTIONS 4'-0" & 2'-6"
3'-10" FROM SILL TO BOTTOM OF 2" x 8" BM
2" x 10" T & G FLOOR PLANK
2" x 10" SILL
2" x 10" RIM
2" x 2" LEDGER BOTH ENDS
9'-10" LENGTH OF FLOOR PLANKING
6'-10" WIDTH OF FLOOR PLANKING SECTION
2" x 6" FLOOR JOISTS
2" x 10" SILL
6'-10"
3'-5"
13'-5"
CEDAR SHINGLES
1'-5"
2" x 10" T & G ROOF PLANKING
2" x 8" BEAM
1" x 4" TRIM PIECE
2" x 10" VERTICAL PLANK SIDING, 'V' GROOVE, T & G.
2" x 4"
RAKE DETAIL
SCALE: 1 1/2" = 1'-0"
13'-6"
6'-6 3/8"
6'-6 3/8"
2" x 10"
2 - 2" x 10" SILL
2" x 4" POST
3 - 2" x 4" POST
2" x 4" CLEATS 6'-5" LONG
2" x 10" T & G FLOOR PLANK
2 - 2" x 4" POST
2" x 6" JOISTS @ 18" O.C.
3 - 2" x 4" POST
12" x 12" CONC PIERS
2" x 10"
2" x 4" CLEAT
EDGE OF FLOOR JOIST SYSTEM
3 - 2" x 4" @ EQUAL SPACES
COPE FLOORING FOR 2" x 12" PLATE
CUT HOLE IN 2" x 12" PLATE TO ALLOW 4" x 4" COL. TO BEAR ON SILL.
2" x 10" T & G PLANK SIDING
2 - 2" x 10" SILL
ROOF OVERHUNG
2" x 10" T & G PLANK SIDING
1'-5"
2'-0"
9'-5"
4'-6"
4'-6"
2'-0"
FLOOR PLAN
SCALE: 1/2" = 1'-0"
NOTE: COPE 2" x 10" T & G FLOORING TO ALLOW WALL POSTS TO BEAR ON 2 - 2" x 10" SILL.
FACING PIECE
CEDAR SHINGLES
1" x 4" TRIM PIECE AT TOP OF SIDING
4" x 4" POST
3 - 2" x 4" @ EQUAL SPACING
2" x 10" VERTICAL PLANK SIDING, 'V' GROOVE, T & G.
GRADE
12" x 12" CONC. BLOCK PIERS FILL CORES OF BLOCK TO WITHIN 12" OF TOP WITH SAND AND FILL TO TOP WITH CONC.
2'-0" x 2'-0" x 6" CONC. FOOTING PADS WITH 4 - 1/2" Ø BARS @ 6" O.C.
5'-0"
END ELEVATION
CONSTRUCTION NOTES:
1. FORM RIDGE AND EAVE BEAMS BY LAMINATING AND NAILING TO CONTINUOUS BEAM MEMBERS.
2. SECURE WALL SECTION WITH SPIKES THRU PLATE.
3. ALL BOLTS ARE TO BE 3/8" DIA. AND HAVE WASHERS FOR BOTH SIDES.
4. BOLTS SHALL BE 4" LONG IF THRU TWO MEMBERS AND 5 1/2" LONG IF THRU THREE MEMBERS.
5. ROUT AS NECESSARY TO FIT SIDING OVER BOLT HEADS.

2 of 2

R-9
U-156 02
■ Details Complete
□ Details Incomplete

Forest Service · USDA

FOREST SERVICE · U.S. · DEPARTMENT OF AGRICULTURE



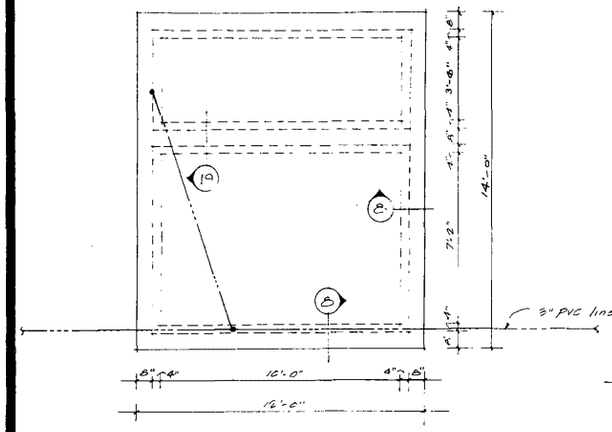
Forest Service · USDA

1 of 2

R-9
U-156 01
■ Details Complete
□ Details Incomplete

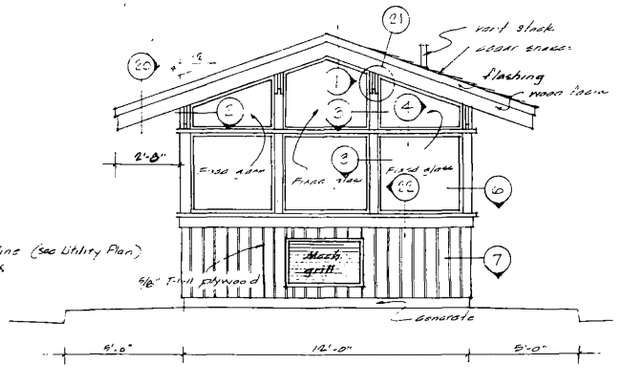
Adirondack Shelter
Wood Frame With Wood Exterior

Entrance Station
Wood Frame With Wood Exterior



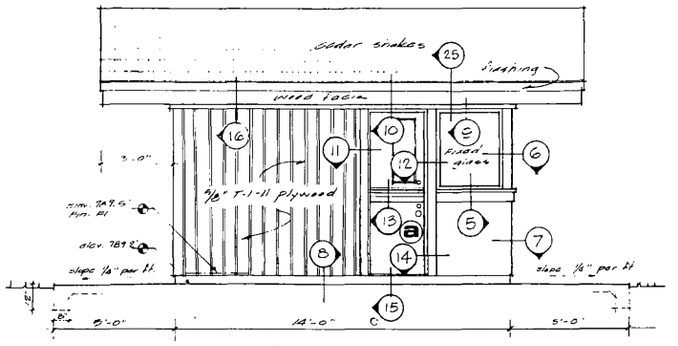
foundation plan

scale 3/16" = 1'-0"



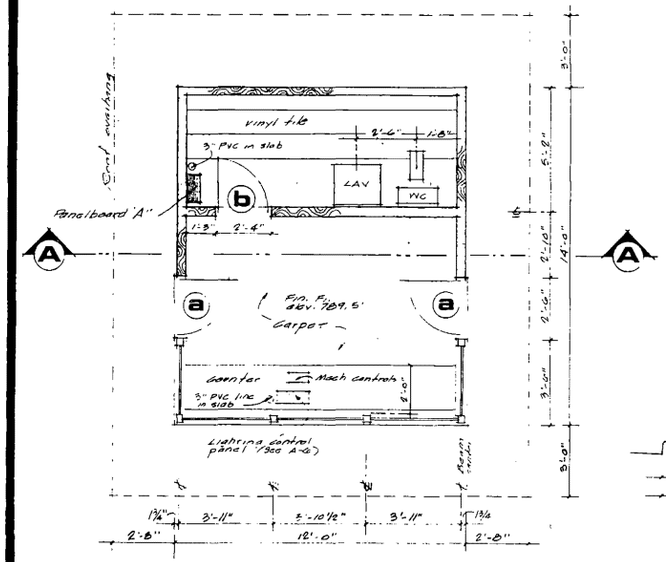
front elevation

scale 3/16" = 1'-0"



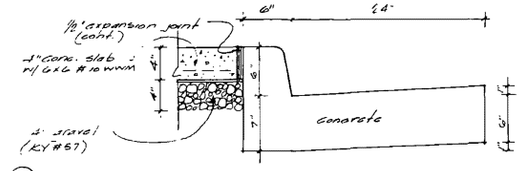
side elevation (typ)

scale 3/16" = 1'-0"



floor plan

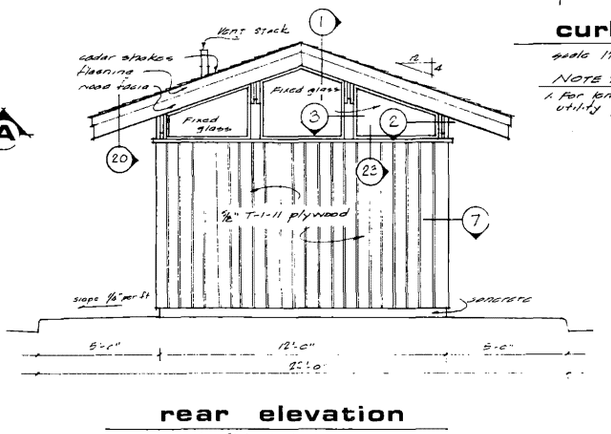
scale 3/16" = 1'-0"



curb detail

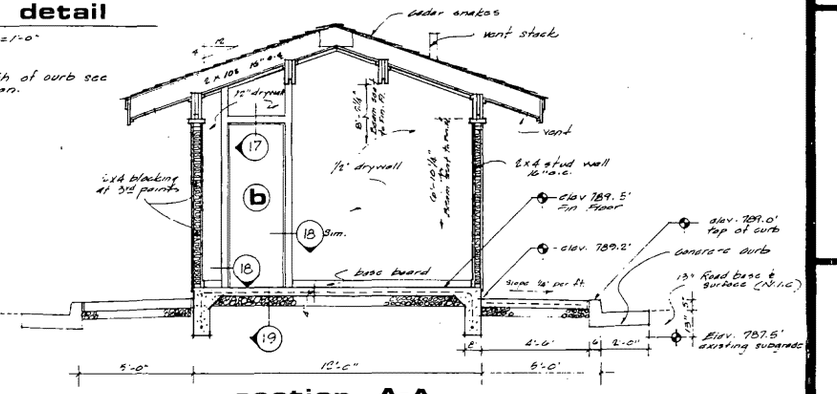
scale 1 1/2" = 1'-0"

NOTE:
1. For length of curb see utility plan.



rear elevation

scale 3/16" = 1'-0"



section A-A

scale 3/16" = 1'-0"

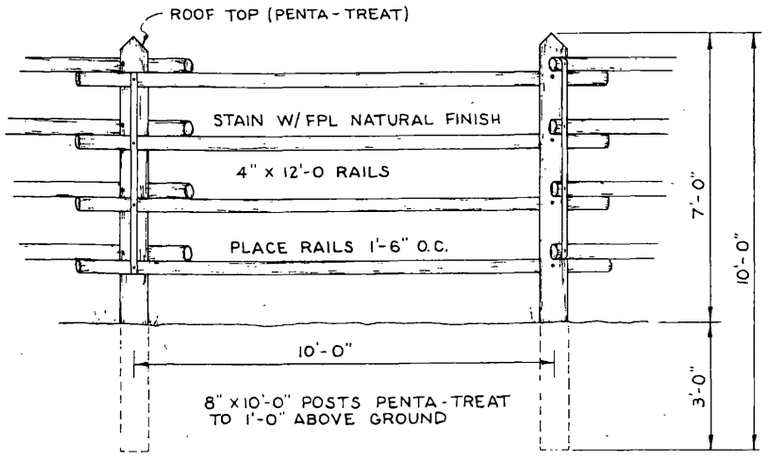
Forest Service · USDA

1 of 1

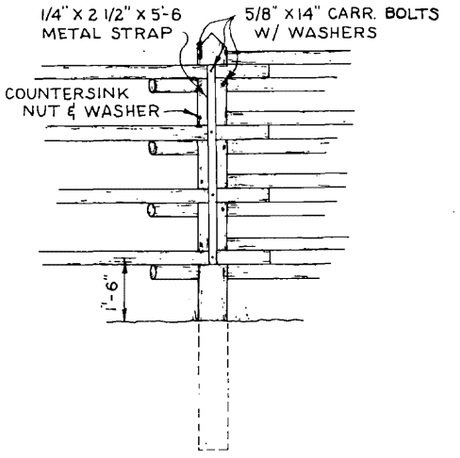
R-8
B-7403

□ Details Complete
■ Details Incomplete

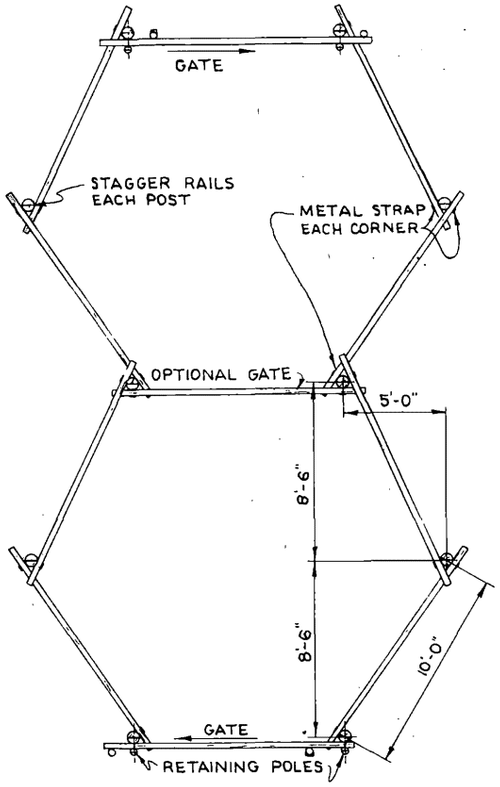
Horse Corral



CORRAL PANEL

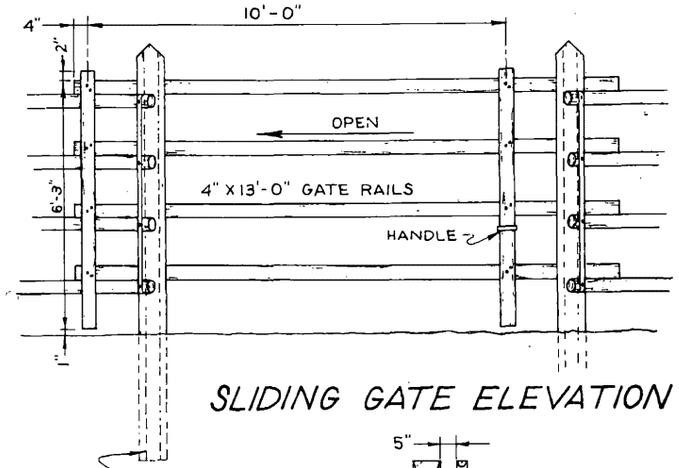


TRIPLE RAIL JOINT DETAIL



PLAN VIEW

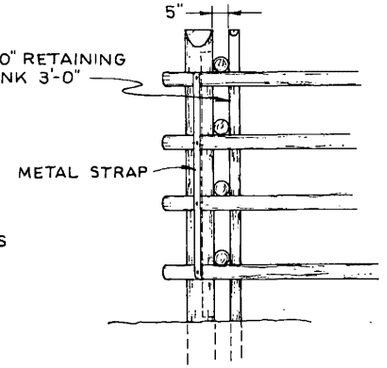
0' 1' 2' 3'
SCALE



SLIDING GATE ELEVATION

0' 1' 2' 3'
SCALE

NOTE:
CORRALS CAN BE BUILT AS INDIVIDUAL UNITS OR IN MODULES



GATE SIDE ELEVATION

1 of 1

R-2
PI.21-R2-M
■ Details Complete
□ Details Incomplete

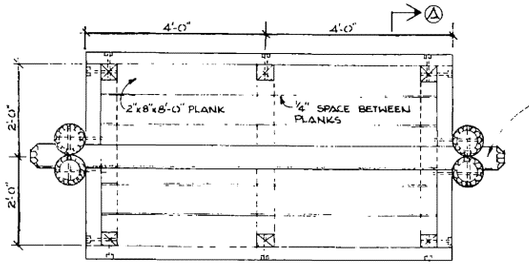
Forest Service · USDA

MATERIAL LIST

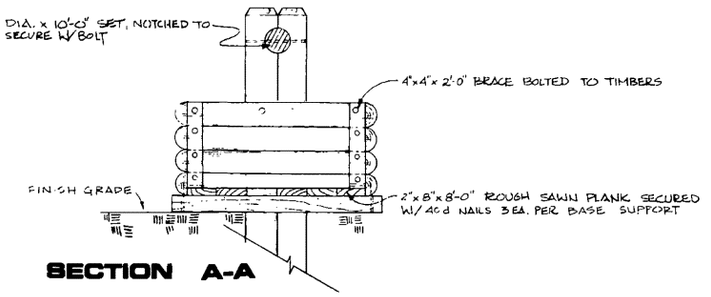
QTY.	ITEM	REMARKS
1	TIE RACK	6" MIN. ϕ x 10'-0"
4	TIE RACK POST (TREATED)	8" MIN. ϕ x 8'-0"
8	HALF ROUND TIMBER	4" x 6" x 4'-0"
8	HALF ROUND TIMBER	4" x 6" x 8'-0"
6	ROUGH SAWN PLANKS	2" x 8" x 8'-0"
3	BASE SUPPORTS	4" x 4" x 5'-0" (TREATED)
6	BRACES	4" x 4" x 2'-0"
	HARDWARE	
40	CARRIAGE BOLTS	½" x 8" W/NUT & WASHER
6	CARRIAGE BOLTS	½" x 10" W/NUT & WASHER
4	CARRIAGE BOLTS	½" x 12" W/NUT & WASHER
2	CARRIAGE BOLTS	½" x 16" W/NUT & WASHER
3 LB.	40 d NAILS	

NOTES:

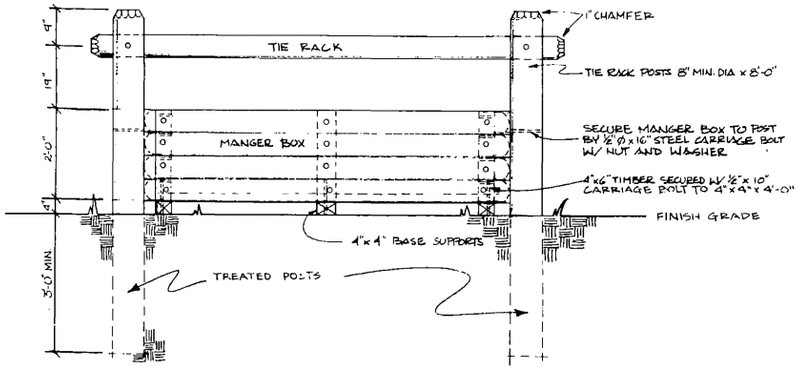
1. DO NOT PAINT OR STAIN
2. COUNTERSINK THREADED BOLT ENDS AND BATTER THREADS
3. TREAT ONLY THAT PORTION OF POSTS WHICH ARE IN CONTACT WITH THE GROUND



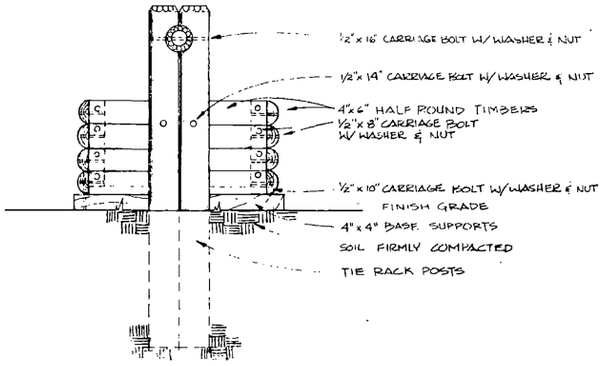
PLAN VIEW


TIE RACK 6" MIN DIA. x 10'-0" SET, NOTCHED TO 8" x 8'-0" LOGS & SECURE W/ BOLT
4"x4" x 2'-0" BRACE BOLTED TO TIMBERS
FINISH GRADE
2"x 8"x 8'-0" ROUGH SAWN PLANK SECURED W/ 40 d NAILS 3 EA. PER BASE SUPPORT

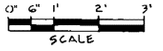
SECTION A-A



FRONT ELEVATION


½" x 16" CARRIAGE BOLT W/ WASHER & NUT
½" x 14" CARRIAGE BOLT W/ WASHER & NUT
4"x 6" HALF ROUND TIMBERS
½" x 8" CARRIAGE BOLT W/ WASHER & NUT
½" x 10" CARRIAGE BOLT W/ WASHER & NUT
FINISH GRADE
4" x 4" BASE SUPPORTS
SOIL FIRMLY COMPACTED
TIE RACK POSTS

SIDE ELEVATION



Manger With Tie Rack

1 of 1

R-4

■ Details Complete
□ Details Incomplete

Forest Service • USDA

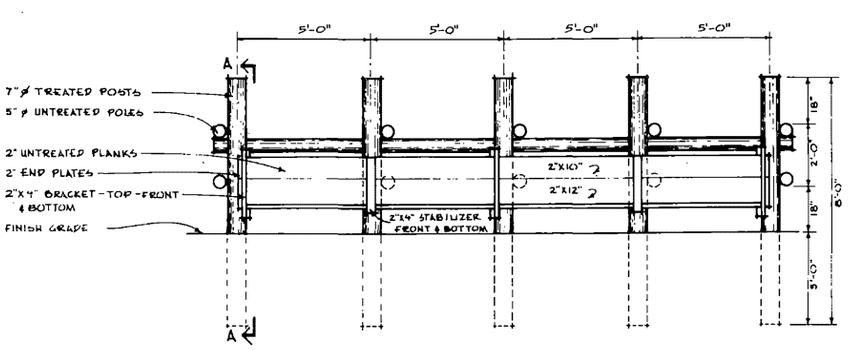
FOREST SERVICE U·S·DEPARTMENT OF AGRICULTURE

Horse Stall With Manger

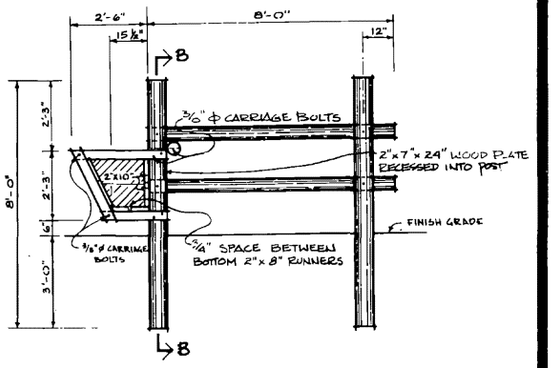
MATERIAL LIST

(4-STALLS)

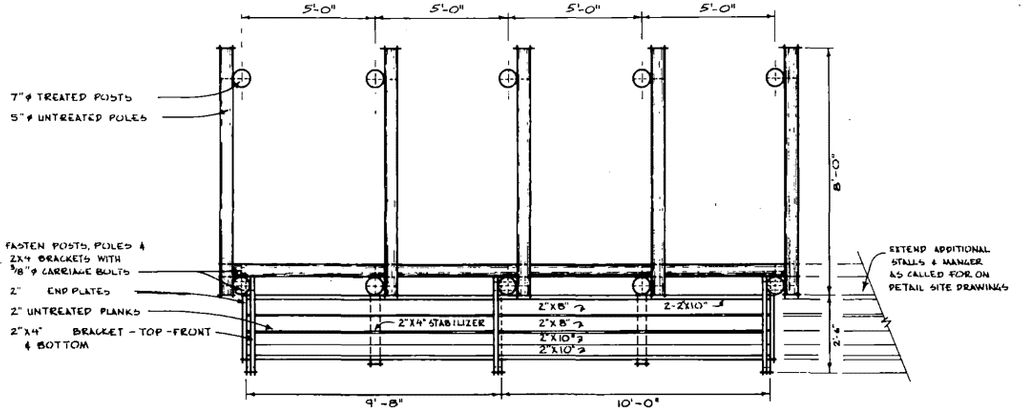
QTY	ITEM	REMARKS
	—CARPENTRY—	
10	TREATED POSTS	7"ϕ x 8'-0" EA.
1	UNTREATED POLE	5"ϕ x 21'-6" EA.
10	UNTREATED POLES	5"ϕ x 8'-0" EA.
4	UNTREATED FIR PLANKS	2" x 8" x 10'-0" EA.
6	UNTREATED FIR PLANK	2" x 10" x 10'-0" EA.
3	WOOD PLATES	2" x 6" x 2'-3" EA.
3	2"x4" FIR BRACKET	2" x 4" x 7'-0" EA.
2	2" x 4" FIR STABILIZER	2" x 4" x 4'-0" EA.
2	FIR END PLATES	2" x 2'-0" x 2'-0" EA.
	—HARDWARE—	
50	3/8" ϕ CARRIAGE BOLTS	GALVANIZED
40	10 d COMMON NAILS	GALVANIZED



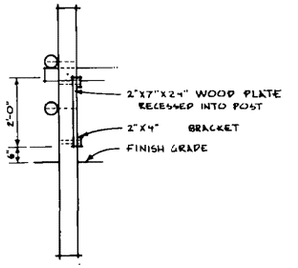
ELEVATION



SECTION A-A



PLAN



SECTION B-B

NOTES :

- THIS IS A MODULAR LAYOUT - STALLS & MANGER MAY BE ADDED IN MULTIPLES OF TWO AS CALLED FOR ON LAYOUT DRAWING.
- LENGTH OF GALV. CARRIAGE BOLTS WILL VARY ON POST, POLE & BOARD DIMENSIONS - COUNTERSINK ALL NUTS & WASHERS - CUT BOLTS FLUSH & BATTER THREADS.
- FASTEN 2" PLANKS W/10 d GALV. COMMON NAILS. CLINCH EXPOSED ENDS OF DRIVEN NAILS.
- DIMENSIONED LUMBER SHALL BE S4S DOUGLAS FIR NO. 2 AND BETTER STRUCTURAL PLANKS & LIGHT FRAMING. PAINTING OF LUMBER IS NOT REQUIRED ON MANGER.
- DIAMETERS GIVEN FOR POSTS & POLES ARE MEASURED AT THE TIP AND WILL VARY ± ½".
- POSTS WILL BE TREATED AS SPECIFIED.
- DO NOT PAINT OR STAIN THIS STRUCTURE
- 6" Ø BLACK STEEL PIPE, SET IN 2 C.F. CONCRETE, SHALL BE USED IN PLACE OF WOOD POSTS WHEN SPECIFIED

0' 6" 1' 2' 4' 8'
SCALE

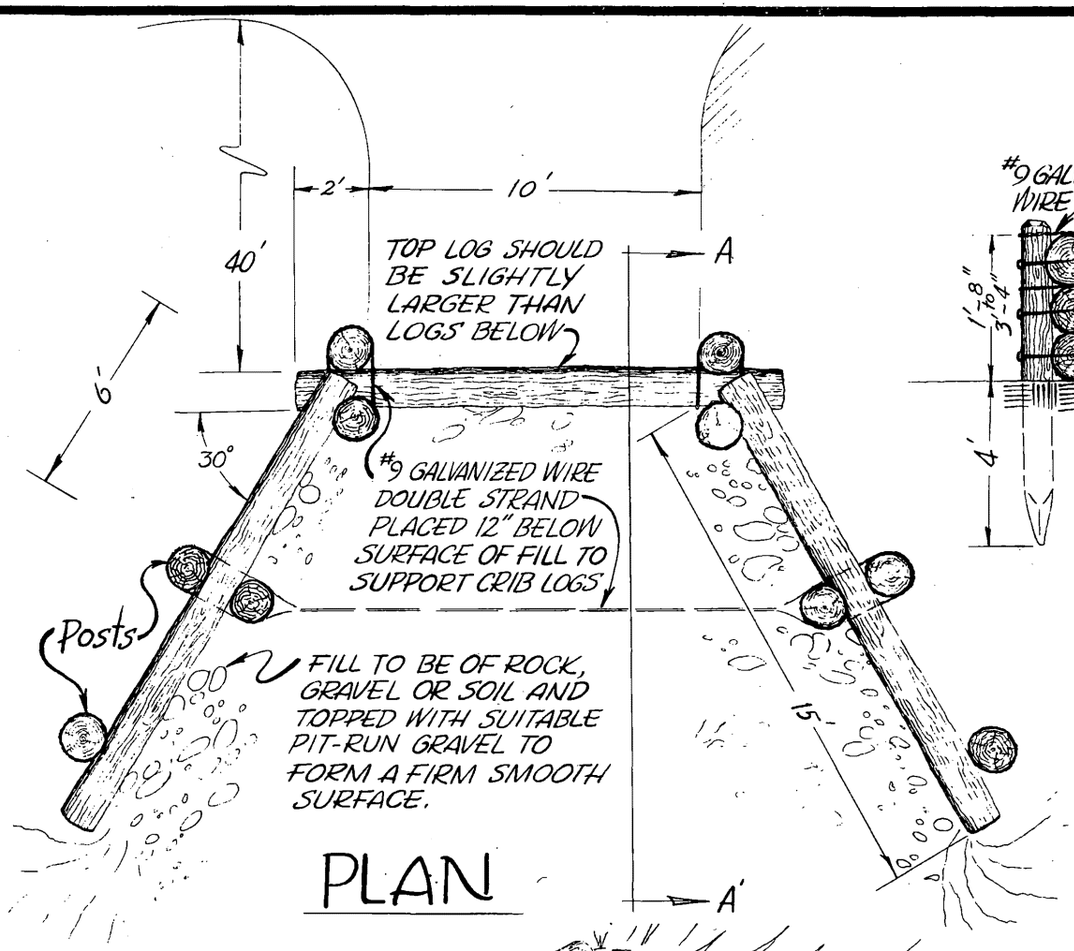
1 of 1

R-4

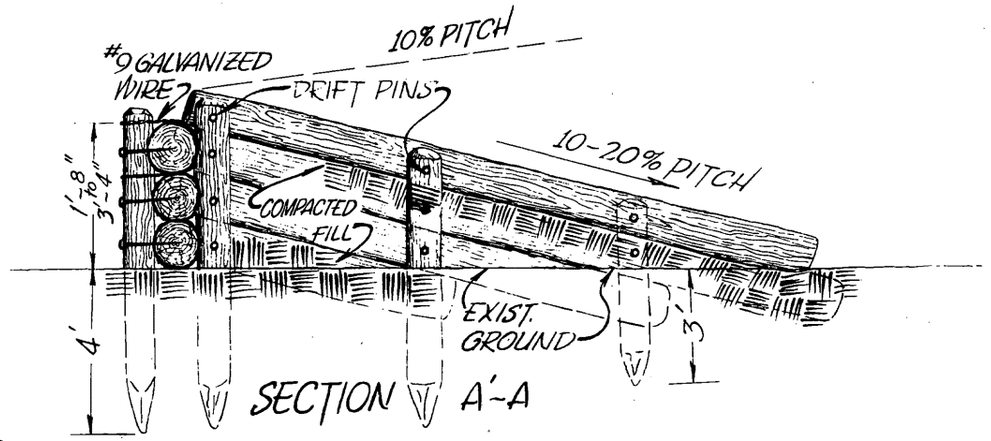
■ Details Complete
□ Details Incomplete

Forest Service · USDA

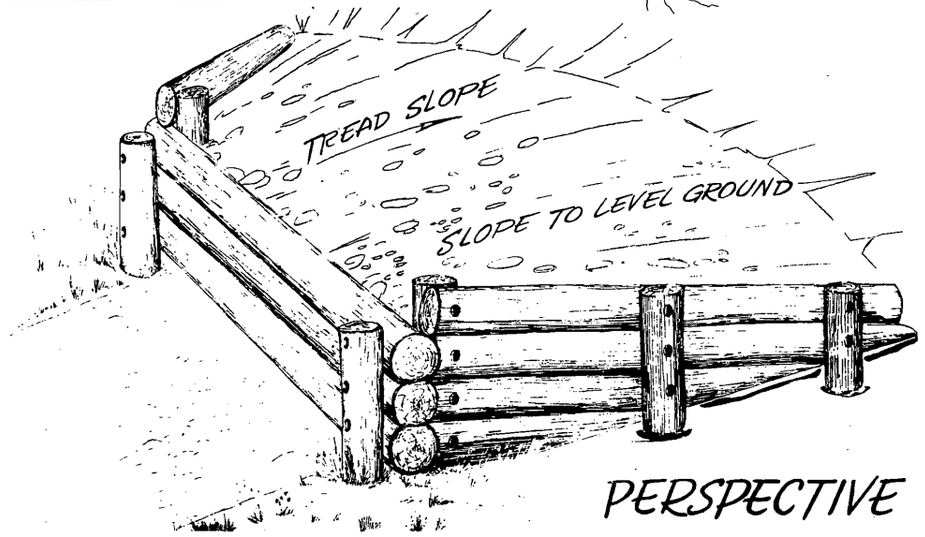
FOREST SERVICE · DEPARTMENT OF AGRICULTURE


2'
10'
40'
6'
30°
TOP LOG SHOULD BE SLIGHTLY LARGER THAN LOGS BELOW
A
#9 GALVANIZED WIRE DOUBLE STRAND PLACED 12" BELOW SURFACE OF FILL TO SUPPORT CRIB LOGS
Posts
FILL TO BE OF ROCK, GRAVEL OR SOIL AND TOPPED WITH SUITABLE PIT-RUN GRAVEL TO FORM A FIRM SMOOTH SURFACE.
15'
A'

PLAN



SECTION A'-A



PERSPECTIVE

NOTE:

1. Posts should be treated with preservative.
2. All log surfaces that are in contact with soil should be coated with preservative.
3. Similar details for construction w/ timbers.
4. Similar construction details can be used to construct a split-level unloading ramp.

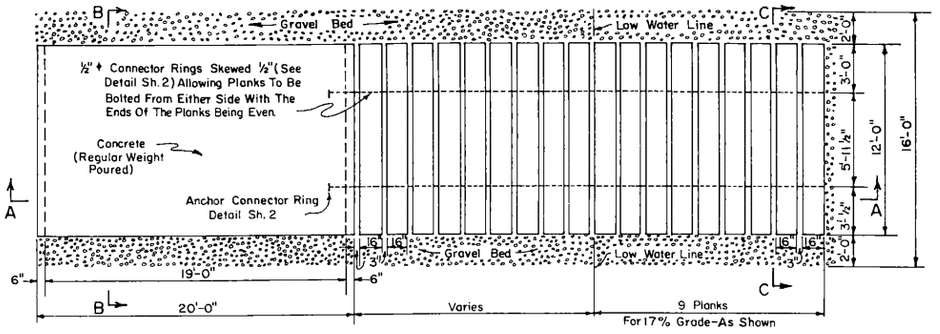
Horse Unloading Ramp
Log or Timber Type

1 of 1

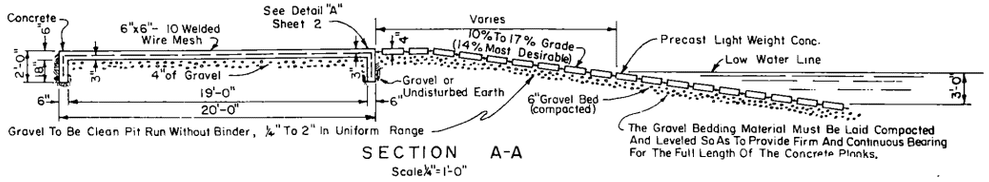
R-2
PI.21-R2-L
■ Details Complete
□ Details Incomplete

Forest Service · USDA

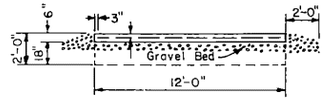
Boat Launching Ramp Concrete Plank



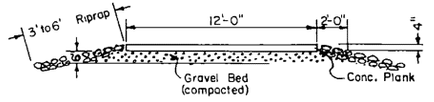
PLAN
Scale ¼"=1'-0"


Concrete
6"x6"- 10 Welded Wire Mesh
See Detail "A" Sheet 2
Varies
10% To 17% Grade (14% Most Desirable)
Precast Light Weight Conc.
Low Water Line
2'-0"
18"
3"
4" of Gravel
Gravel or Undisturbed Earth
6"Gravel Bed (compacted)
3'-0"
6"
19'-0"
20'-0"
6"
Gravel To Be Clean Pit Run Without Binder, ¼" To 2" In Uniform Range
The Gravel Bedding Material Must Be Laid Compacted And Leveled So As To Provide Firm And Continuous Bearing For The Full Length Of The Concrete Planks.

SECTION A-A
Scale ¼"=1'-0"



SECTION B-B
Scale ¼"=1'-0"



SECTION C-C
Scale ¼"=1'-0"

BILL of MATERIALS - CONC. PLANK *

No.	Size	Length	Item
3	#4	11'-6"	Reinf. Rods
2	½" ϕ	See Detail	Connector Rings-Galv.
2	½" ϕ	2"	Bolts/W Nuts & 2 Washers-Galv.
¼ Cu. Yd.			Concrete-Light Wt.

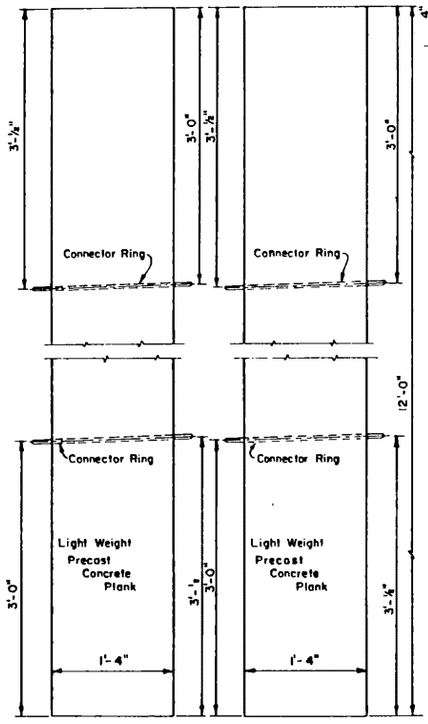
* 1 Plank

BILL of MATERIALS - CONC. SLAB

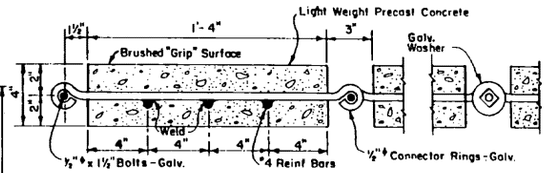
No.	Size	Length	Item
4.6 Cu. Yds.			Concrete-Reg. Wt.
3 Pcs.	3'-0" Wide	24'-0"	6"x6"-10 Welded Wire Mesh
2	½" ϕ	See Detail	Galv. Connector Ring

NOTES

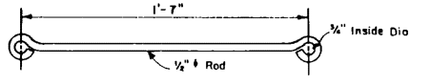
1. Planks Should Extend To The Deepest Point A Boat Trailer Would Normally Reach. Avoid Sharp Drop-Off In Grade Beyond Lower End And Along Sides.
2. Install A Post (Steel Or Treated Timber) 2' Back From Either Side Of Ramp Near But Above High Water Line. Posts Should Extend 3' Above Ground.
3. Reflectorized Discs (3" Min. Dia.) Should Be Secured Front And Back To Assist Boaters And Motorists After Dark. Additional Reflectors May Be Installed, As Needed, Along Slab Depending Upon Its Length And On The Auto Traffic Pattern.



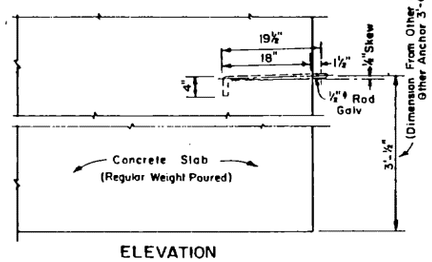
CONNECTOR RING PLACEMENT DETAIL
Scale 1½"=1'-0"



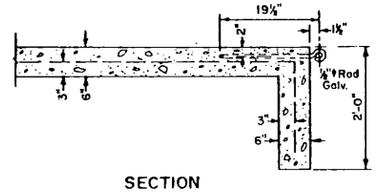
SECTION D-D
Scale 3"=1'-0"



CONNECTOR RING DETAIL
Scale 3"=1'-0"
(Galvanize After Fabrication)



ELEVATION



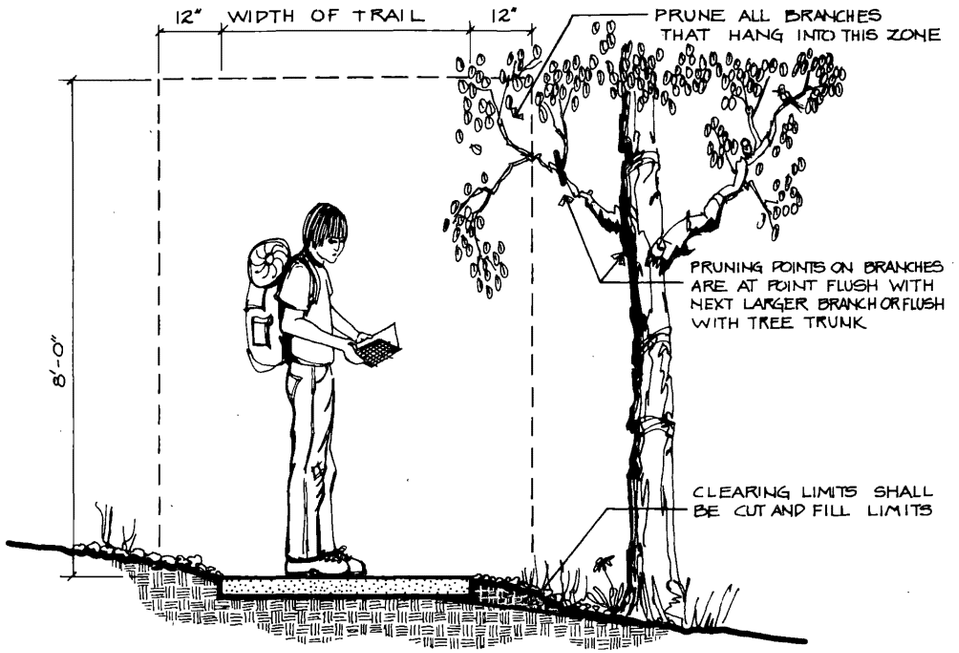
SECTION
DETAIL "A" (Sh.1)
Scale 3"=1'-0"

Forest Service · USDA

1 of 1

R-2

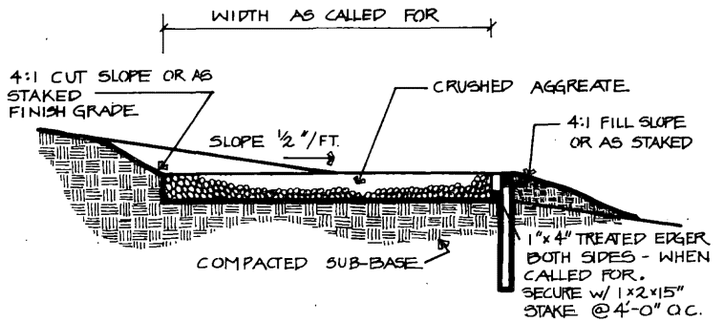
■ Details Complete
□ Details Incomplete


12" WIDTH OF TRAIL 12"
8'-0"
PRUNE ALL BRANCHES THAT HANG INTO THIS ZONE
PRUNING POINTS ON BRANCHES ARE AT POINT FLUSH WITH NEXT LARGER BRANCH OR FLUSH WITH TREE TRUNK
CLEARING LIMITS SHALL BE CUT AND FILL LIMITS

TRAIL CLEARING LIMITS
TYPICAL SECTION

0" 6" 1' 2'

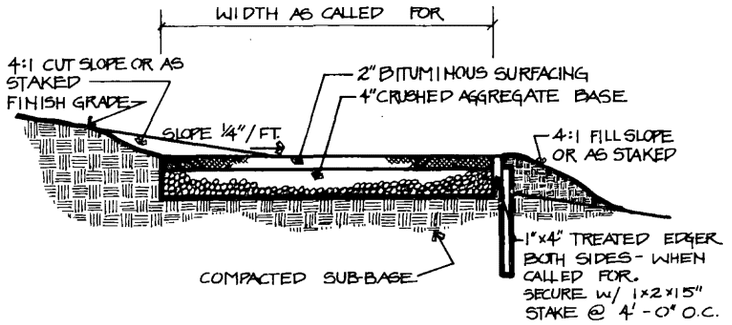
SCALE


WIDTH AS CALLED FOR
4:1 CUT SLOPE OR AS STAKED FINISH GRADE
SLOPE ½"/FT.
CRUSHED AGGREATE
4:1 FILL SLOPE OR AS STAKED
COMPACTED SUB-BASE
1"x 4" TREATED EDGER BOTH SIDES - WHEN CALLED FOR. SECURE w/ 1x2x15" STAKE @ 4'-0" O.C.

AGGREGATE TRAIL
TYPICAL SECTION

0" 6" 1' 2'

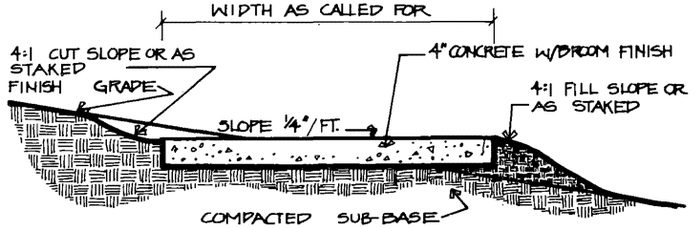
SCALE


WIDTH AS CALLED FOR
4:1 CUT SLOPE OR AS STAKED FINISH GRADE
SLOPE ¼"/FT.
2" BITUMINOUS SURFACING
4" CRUSHED AGGREGATE BASE
4:1 FILL SLOPE OR AS STAKED
COMPACTED SUB-BASE
1"x4" TREATED EDGER BOTH SIDES - WHEN CALLED FOR. SECURE w/ 1x2x15" STAKE @ 4'-0" O.C.

BITUMINOUS SURFACED TRAIL
TYPICAL SECTION

0" 6" 1' 2'

SCALE


WIDTH AS CALLED FOR
4:1 CUT SLOPE OR AS STAKED FINISH GRADE
SLOPE ¼"/FT.
4" CONCRETE W/BROOM FINISH
4:1 FILL SLOPE OR AS STAKED
COMPACTED SUB-BASE

CONCRETE TRAIL
TYPICAL SECTION

0" 6" 1' 2'

NOTES:
- THESE ARE SPECIAL PURPOSE TRAILS INTENDED FOR USE IN AND AROUND DEVELOPED RECREATION SITES.
- DRAINAGE STRUCTURES, WHEN NECESSARY, SUCH AS WATERBARS AND DIPS SHALL BE AS CALLED FOR ON THE DRAWINGS OR AS STAKED IN THE FIELD.
- REFER TO TRAILS HANDBOOK (FSH 7709.12) FOR DETAIL INFORMATION ON ALL-PURPOSE TRAILS.

TREATED EDGER
- TREAT EDGER W/3 COATS 5% PENTACHLOROPHENOL WOOD PRESERVATIVE OR AS SPECIFIED.
- SUBSTITUTE ¼" x 4" TEMPERED HARDBOARD FOR EDGER ON CURVES AS NECESSARY.
- FASTEN STAKES TO EDGER W/2 EA. 4d COMMON NAILS. HOLD TOP OF STAKE 1" LOWER THAN TOP OF EDGER.

BITUMINOUS TRAILS
- USE BITUMINOUS PRIME COAT UNDERNEATH BITUMINOUS SURFACING WHEN CALLED FOR ON DRAWINGS.
- USE BITUMINOUS SEAL COAT ON TOP OF BITUMINOUS SURFACING WHEN CALLED FOR ON DRAWINGS.

CONCRETE TRAILS
- PLACE ½" EXPANSION JOINT FILLER @ 20'-0" O.C. IN CONCRETE TRAIL.
- CONSTRUCT 1" DEEP SCORE JOINT @ 5'-0" O.C. IN BETWEEN EXPANSION JOINTS.

Walk And Trail Details

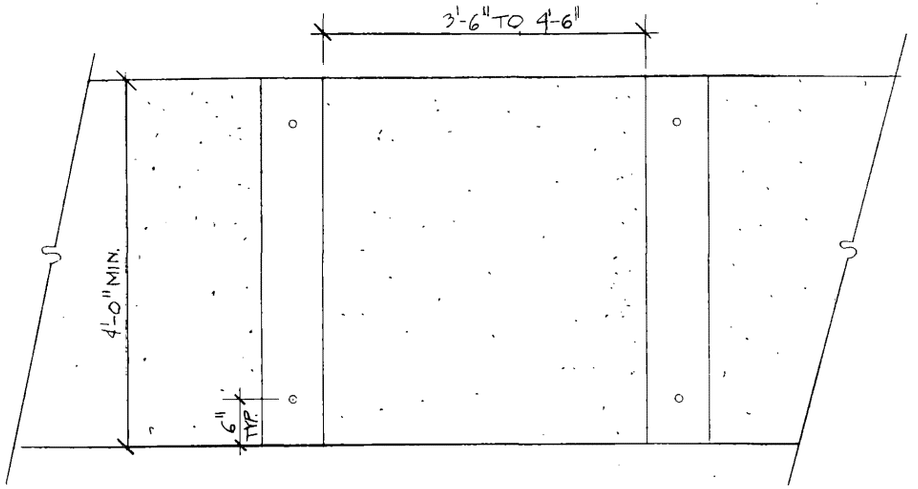
Stone, Bituminous, Concrete

1 of 1

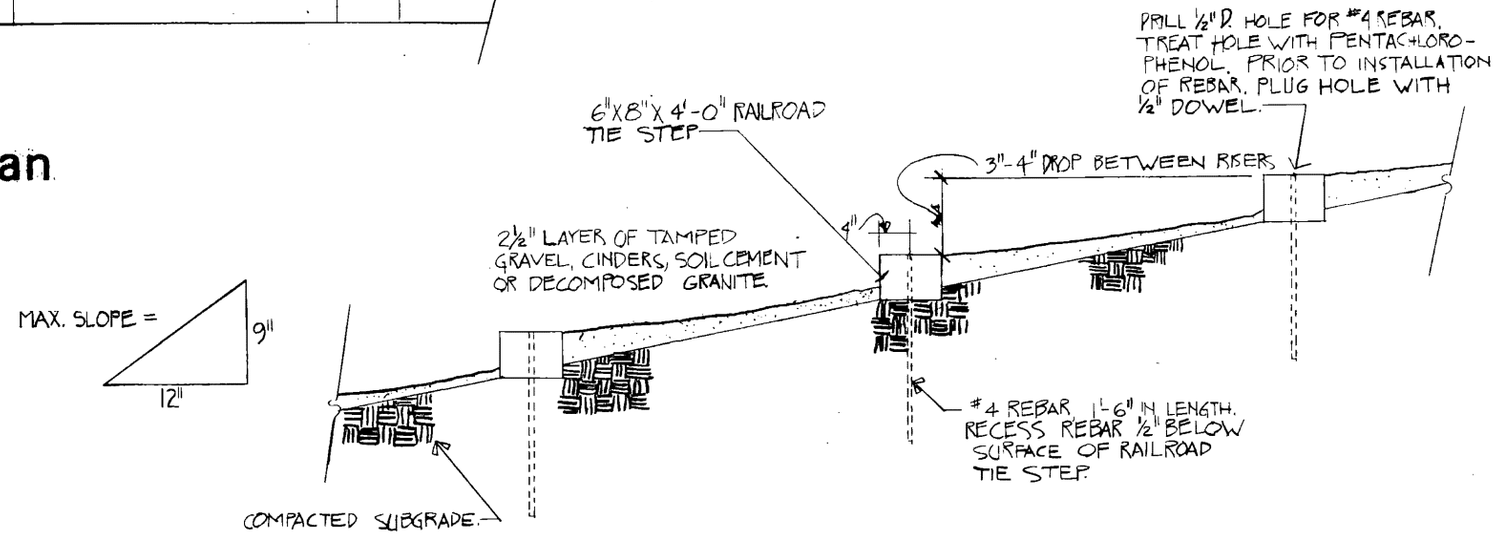
R-4
- ■ Details Complete
- □ Details Incomplete

Forest Service · USDA

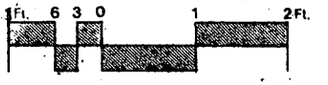
Step And Ramp
Railroad Ties



plan


6"X8"X 4'-0" RAILROAD TIE STEP
DRILL ½" D. HOLE FOR #4 REBAR. TREAT HOLE WITH PENTACHLORO-PHENOL. PRIOR TO INSTALLATION OF REBAR. PLUG HOLE WITH ½" DOWEL.
3"-4" DROP BETWEEN RISERS
2½" LAYER OF TAMPED GRAVEL, CINDERS, SOIL CEMENT OR DECOMPOSED GRANITE
4"
MAX. SLOPE =
9"
12"
#4 REBAR 1'-6" IN LENGTH. RECESS REBAR ½" BELOW SURFACE OF RAILROAD TIE STEP
COMPACTED SUBGRADE

typical section



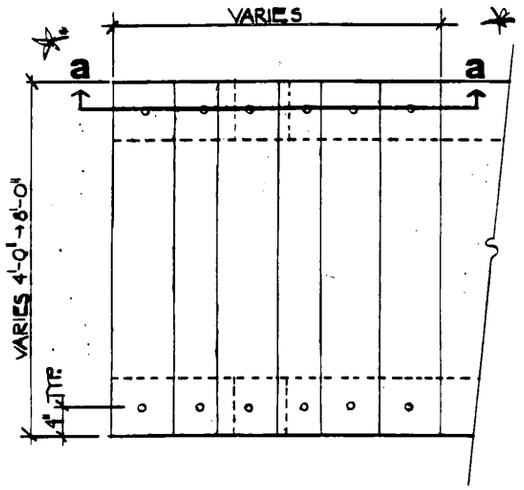
1 of 1

R-6
A-5004

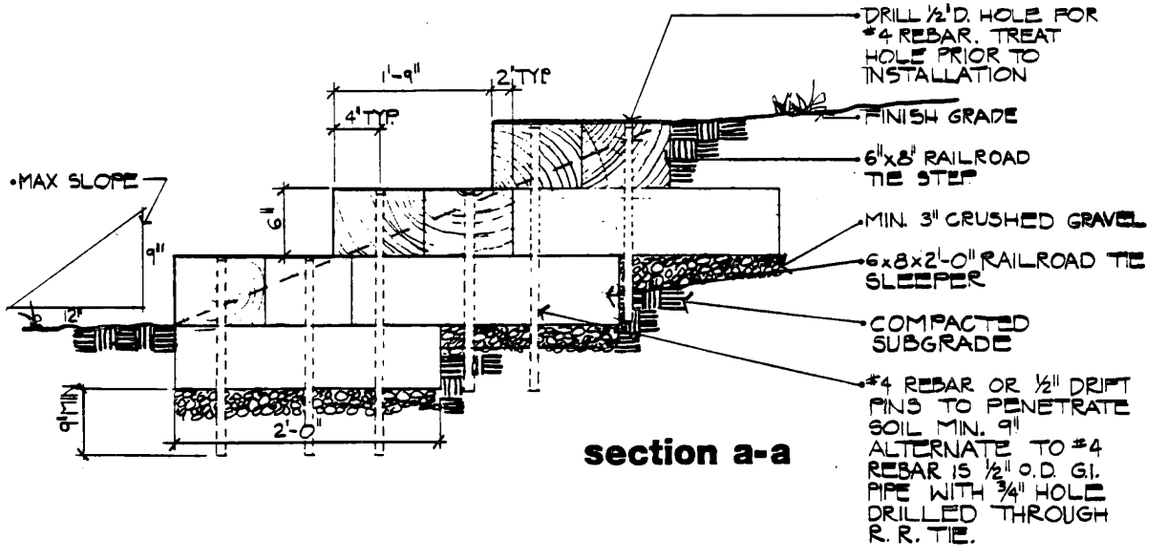
■ Details Complete
□ Details Incomplete

Forest Service · USDA

FOREST SERVICE
U S
DEPARTMENT OF AGRICULTURE



elevation


DRILL ½" D. HOLE FOR #4 REBAR. TREAT HOLE PRIOR TO INSTALLATION
1'-9"
2' TYP.
4' TYP.
FINISH GRADE
6"x8" RAILROAD TIE STEP
•MAX SLOPE
6"
9"
MIN. 3" CRUSHED GRAVEL
6x8x2'-0" RAILROAD TIE SLEEPER
12"
COMPACTED SUBGRADE
9" MIN.
2'-0"
#4 REBAR OR ½" DRIFT PINS TO PENETRATE SOIL MIN. 9" ALTERNATE TO #4 REBAR IS ½" O.D. G.I. PIPE WITH ¾" HOLE DRILLED THROUGH R. R. TIE.

section a-a

Steps
Railroad Tie

1 of 1

R-5
B-6005

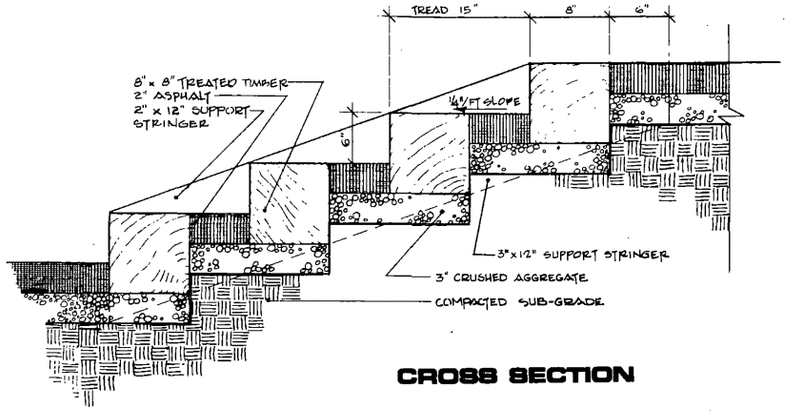
■ Details Complete
□ Details Incomplete

Forest Service · USDA

FOREST SERVICE
USDA
DEPARTMENT OF AGRICULTURE

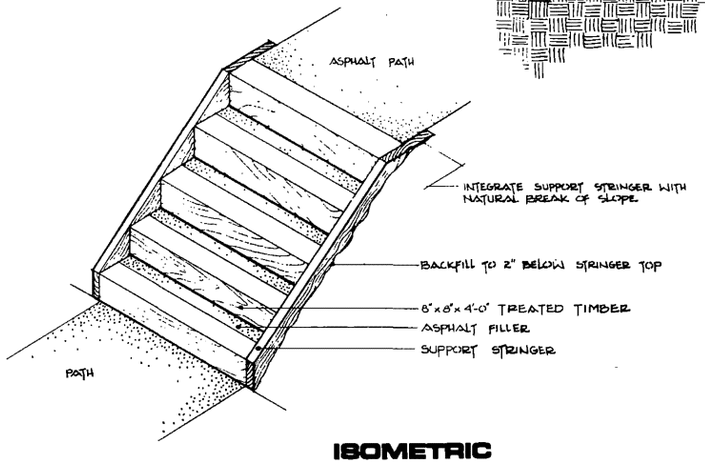
MATERIAL LIST

QTY.	ITEM	REMARKS
NOTE: QUANTITIES GIVEN ARE FOR 1 FLIGHT OF 4 STEPS (3 TREADS, 4 RISERS, NO LANDINGS).		
4	RAILROAD TIES	8"x 8"x 4'-0" EACH
2	FIR SUPPORT STRINGERS	3"x 12"x 5'-6" EACH
1.5 CUR	ASPHALT	
3.5 CUR	CRUSHED AGGREGATE	
16	8" SPIKES OR LAG BOLTS	GALVANIZED



CROSS SECTION

NO SCALE

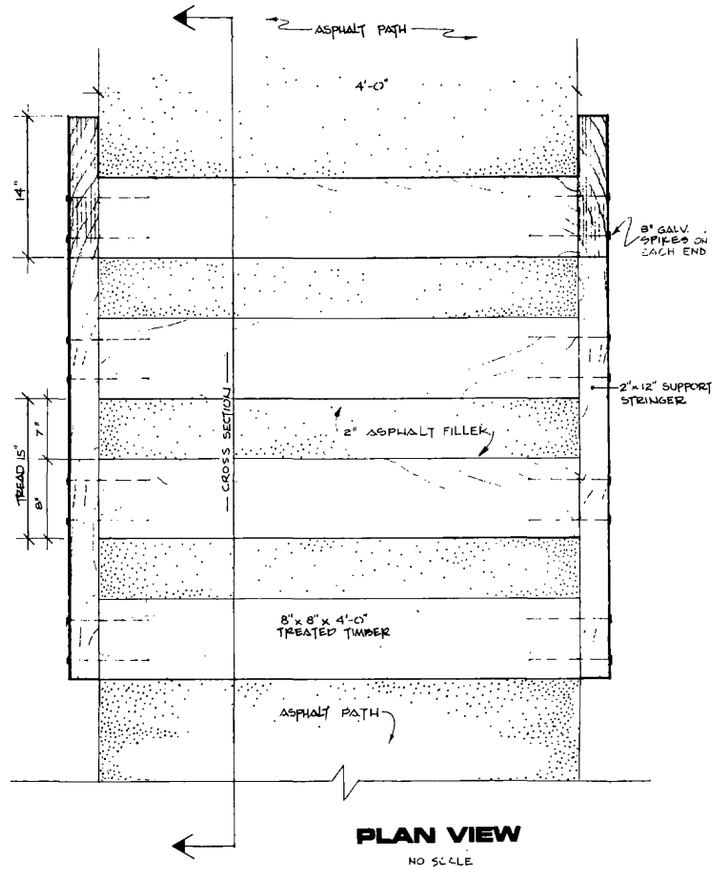


ISOMETRIC

NO SCALE

NOTE

- THE NUMBER OF STEPS WILL VARY ACCORDING TO LENGTH OF SLOPE.
- SUPPORT STRINGERS & TIMBERS WILL BE NUMBER ONE DOUGLAS FIR - ROUGH SAWN AND PRESSURE TREATED.
- ALL TREADS TO BE SLOPED 1/4" / FT. FOR PROPER DRAINAGE



PLAN VIEW

NO SCALE

Steps
Treated Timber Type

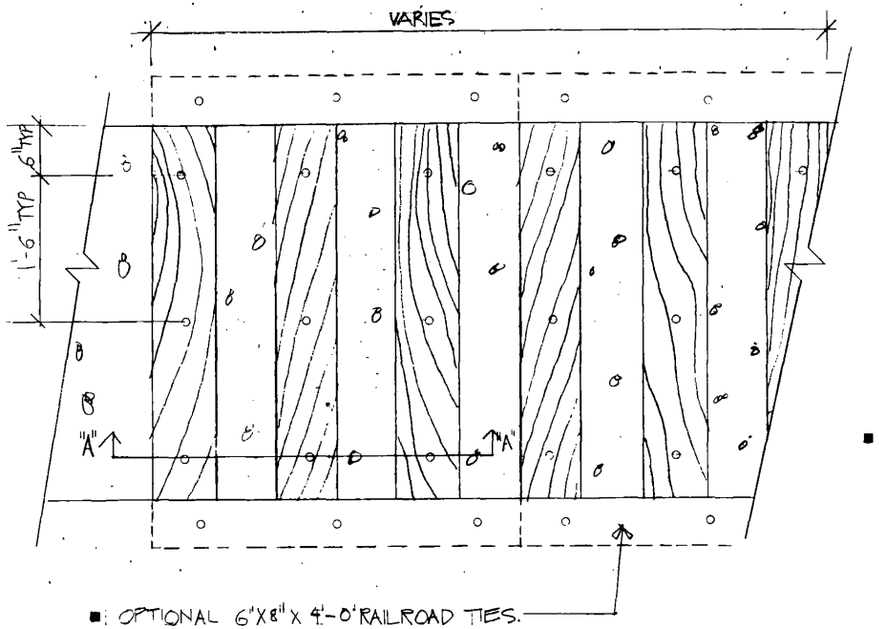
1 of 1

R-4

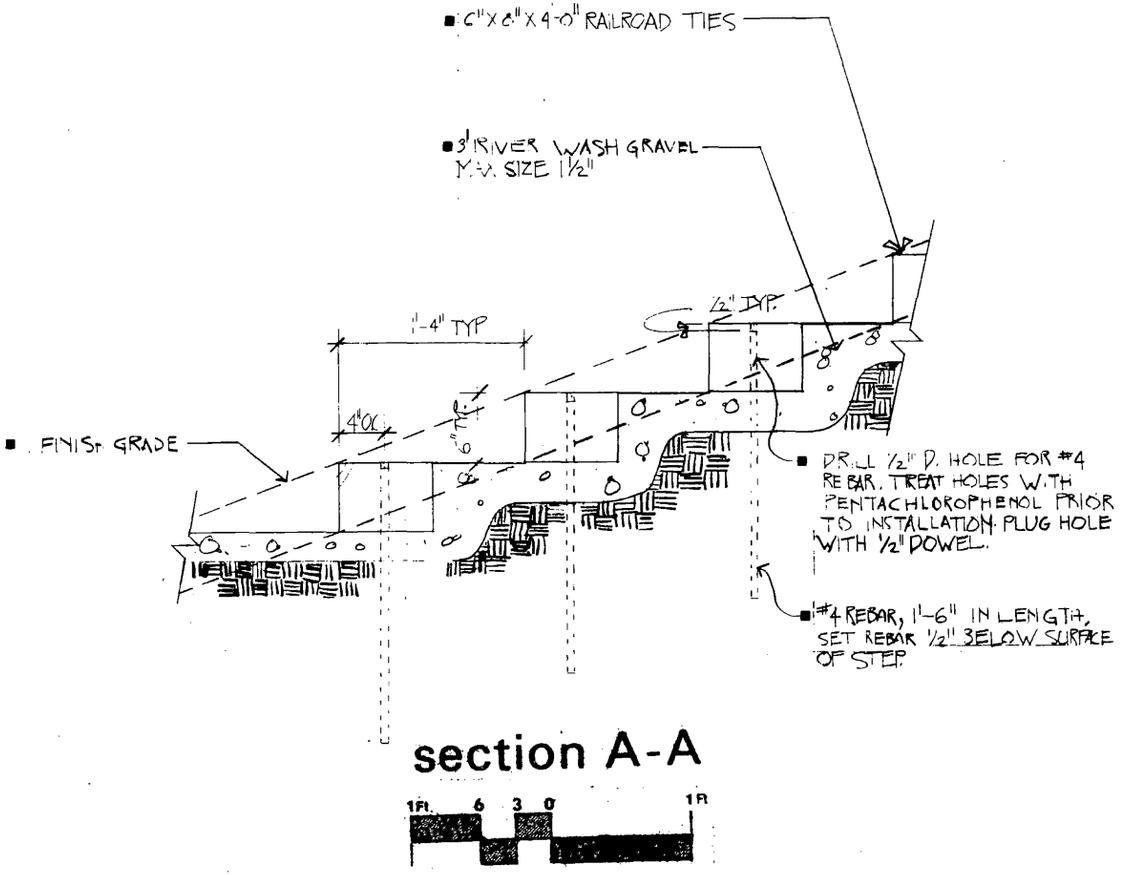
■ Details Complete
□ Details Incomplete

Forest Service · USDA

FOREST SERVICE · U.S. · DEPARTMENT OF AGRICULTURE



plan


■ 6"X6"X4'-0" RAILROAD TIES
■ 3' RIVER WASH GRAVEL M.S. SIZE 1½"
½" TYP.
1'-4" TYP
4" OC.
■ FINISH GRADE
■ DRILL ½" D. HOLE FOR #4 REBAR. TREAT HOLES W.TH PENTACHLOROPHENOL PRIOR TO INSTALLATION. PLUG HOLE WITH ½" DOWEL.
■ #4 REBAR, 1'-6" IN LENGTH, SET REBAR ½" BELOW SURFACE OF STEP.

section A-A

Steps
Railroad Tie With Gravel Filler

1 of 1

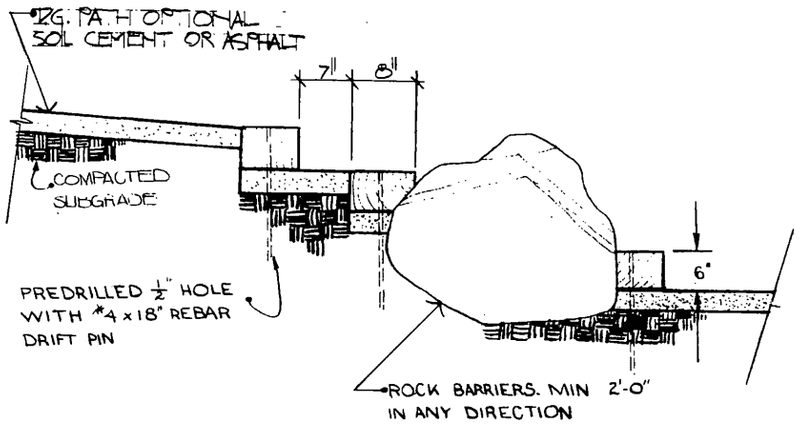
R-6

■ Details Complete
□ Details Incomplete

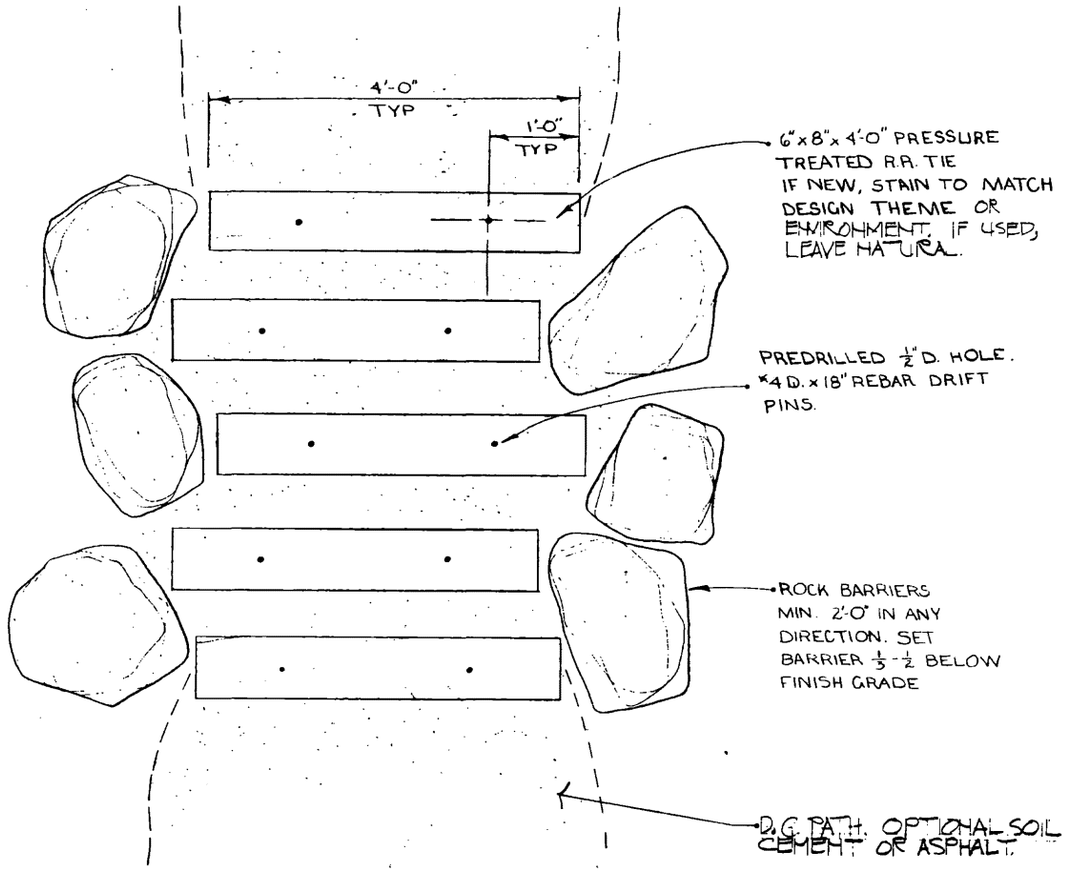
Forest Service · USDA

FOREST SERVICE · USDA · DEPARTMENT OF AGRICULTURE

Steps
Railroad Tie With Soil Cement or Asphalt Filler


D.G. PATH OPTIONAL SOIL CEMENT OR ASPHALT
7"
8"
COMPACTED SUBGRADE
6"
PREDRILLED ½" HOLE WITH #4 x 18" REBAR DRIFT PIN
ROCK BARRIERS. MIN 2'-0" IN ANY DIRECTION

section


4'-0" TYP
1'-0" TYP
6"x8"x4'-0" PRESSURE TREATED R.R. TIE IF NEW, STAIN TO MATCH DESIGN THEME OR ENVIRONMENT. IF USED, LEAVE NATURAL.
PREDRILLED ½" D. HOLE. #4 D. x 18" REBAR DRIFT PINS.
ROCK BARRIERS MIN. 2'-0" IN ANY DIRECTION. SET BARRIER ⅓-½ BELOW FINISH GRADE
D.G. PATH OPTIONAL SOIL CEMENT OR ASPHALT.

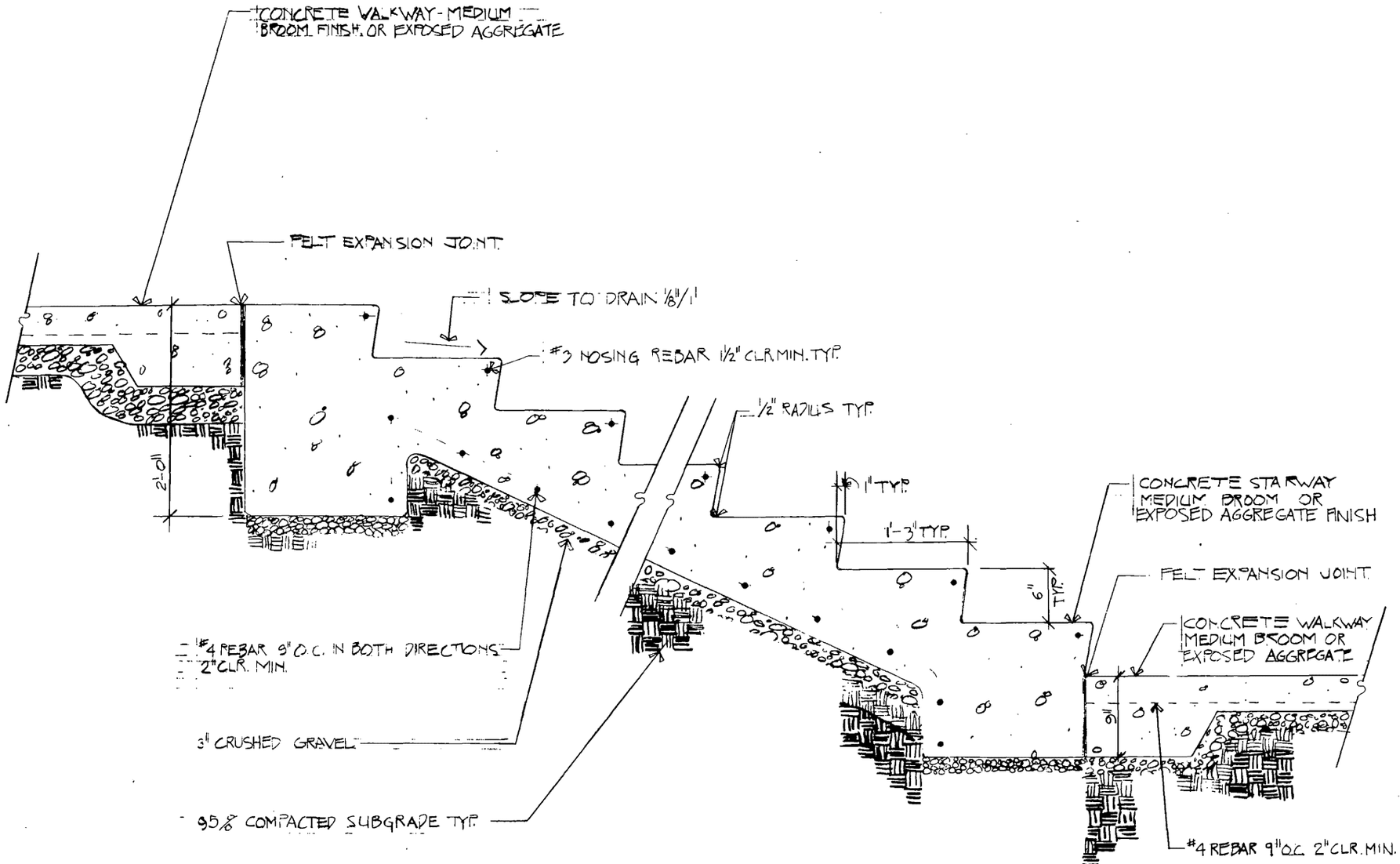
plan

Forest Service · USDA

1 of 1

R-6

■ Details Complete
□ Details Incomplete


CONCRETE WALKWAY - MEDIUM BROOM FINISH OR EXPOSED AGGREGATE
FELT EXPANSION JOINT
SLOPE TO DRAIN 1/8"/1'
#3 NOSING REBAR 1½" CLR MIN. TYP.
½" RADIUS TYP.
2'-0"
1" TYP.
1'-3" TYP.
6" TYP.
CONCRETE STAIRWAY MEDIUM BROOM OR EXPOSED AGGREGATE FINISH
FELT EXPANSION JOINT
CONCRETE WALKWAY MEDIUM BROOM OR EXPOSED AGGREGATE
#4 REBAR 9" O.C. IN BOTH DIRECTIONS 2" CLR. MIN.
3" CRUSHED GRAVEL
95% COMPACTED SUBGRADE TYP.
#4 REBAR 9" O.C. 2" CLR. MIN.

section

1Ft. 6 3 0 1Ft.

Steps
Concrete

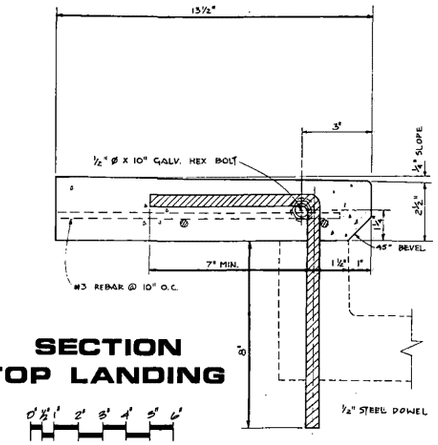
1 of 1

R-6
A-5005
■ Details Complete
□ Details Incomplete

Forest Service · USDA

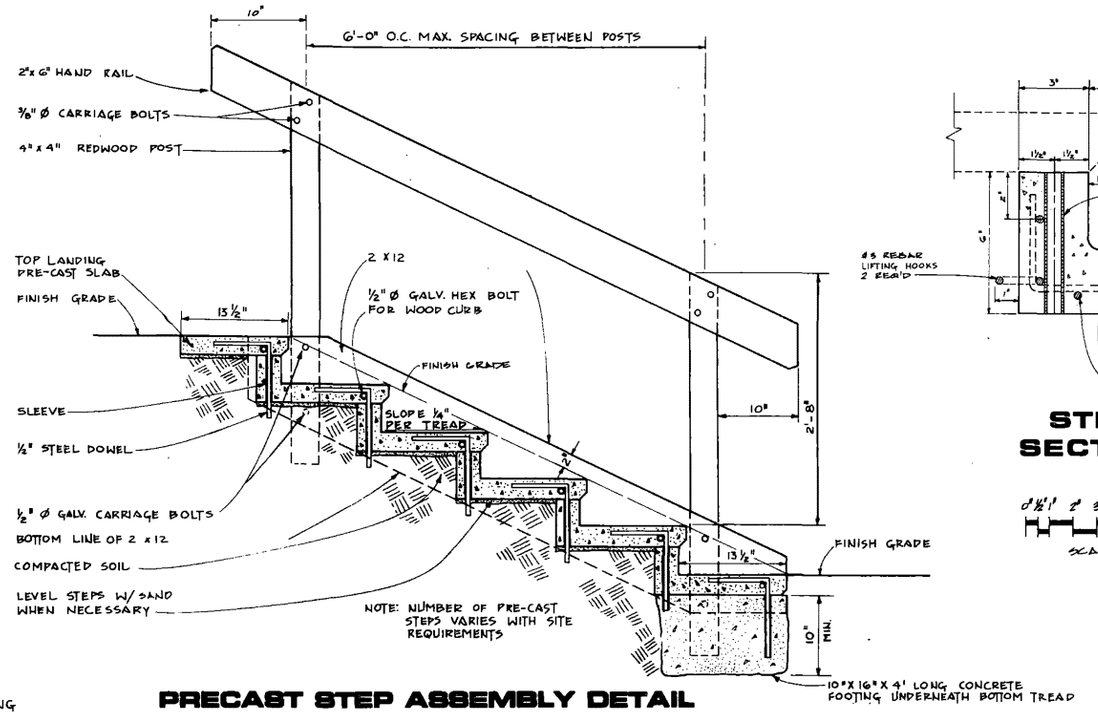
FOREST SERVICE · DEPARTMENT OF AGRICULTURE

Steps
Precast Concrete Steps



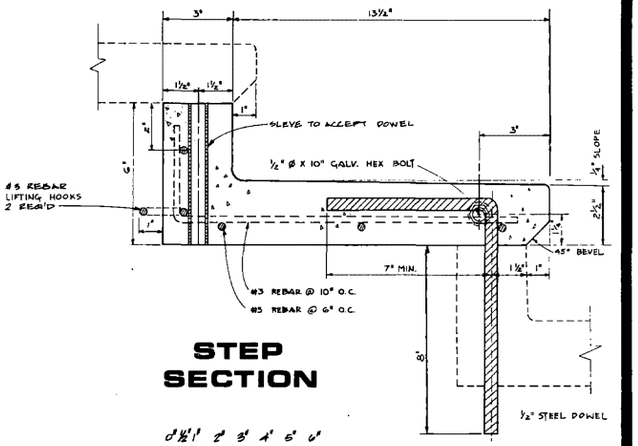
SECTION TOP LANDING

0' ½' 1' 2' 3' 4' 5' 6'
SCALE



PRECAST STEP ASSEMBLY DETAIL

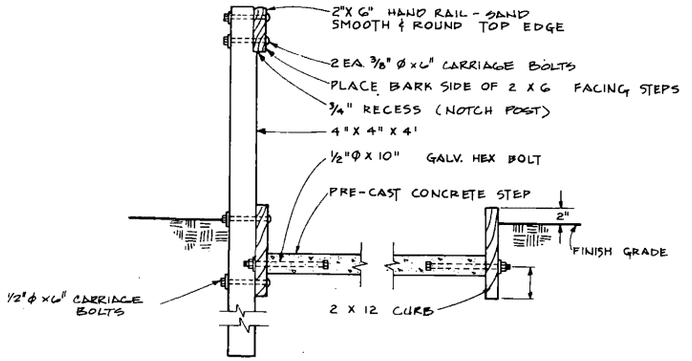
0" 6" 1' 2' 3'
SCALE



STEP SECTION

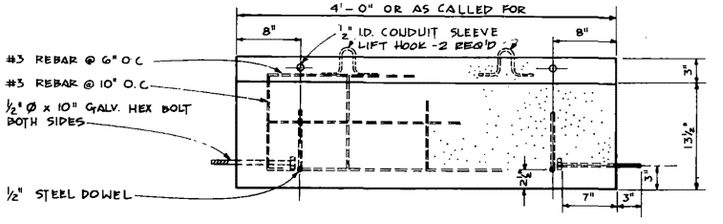
0' ½' 1' 2' 3' 4' 5' 6'
SCALE

NOTE: PLACE SAFETY HAND RAILING ON ONE SIDE OF STEPS ONLY


2"X 6" HAND RAIL - SAND SMOOTH & ROUND TOP EDGE
2 EA. ⅜" ø x 6" CARRIAGE BOLTS
PLACE BARK SIDE OF 2 X 6 FACING STEPS
¾" RECESS (NOTCH POST)
4" X 4" X 4'
½" ø X 10" GALV. HEX BOLT
PRE-CAST CONCRETE STEP
2"
FINISH GRADE
½" ø x 6" CARRIAGE BOLTS
2 X 12 CURB

SAFETY RAIL AND & CURBING DETAIL

0" 6" 1' 2' 3'
SCALE



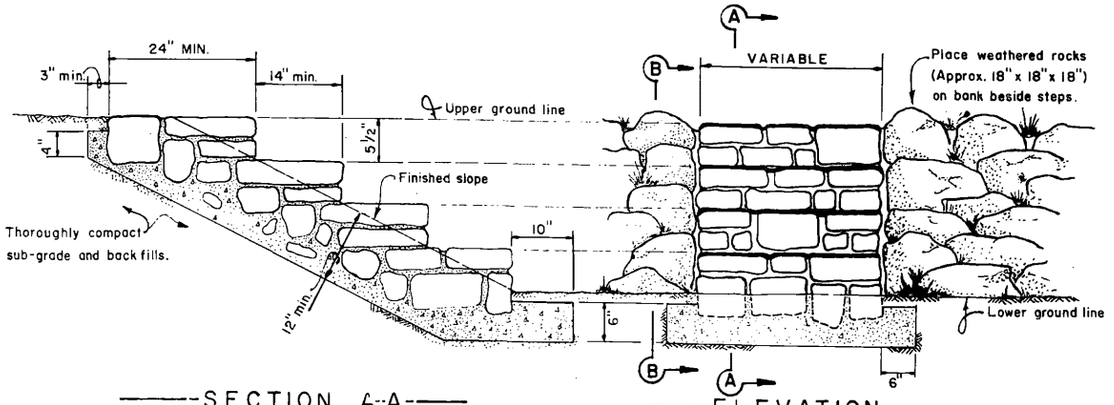
PLAN VIEW

0" 6" 1' 2' 3'
SCALE

Forest Service · USDA

1 of 1

R-4
PI.13116
■ Details Complete
□ Details Incomplete

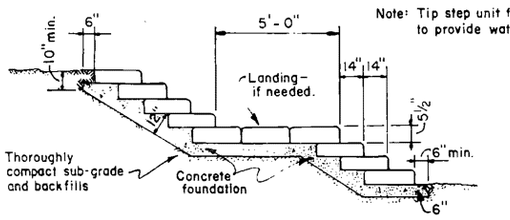


—SECTION A-A— —ELEVATION—

—SECTION B-B—

TYPE I — MASONRY

NOTES: The length of slope determines the number of treads.
Use flat stones for treads; none should be shorter than 12".
All stone to be held together with 1:2½ mortar joints to be raked out ½" deep.



Note: Tip step unit forward minimum to provide water drainage.

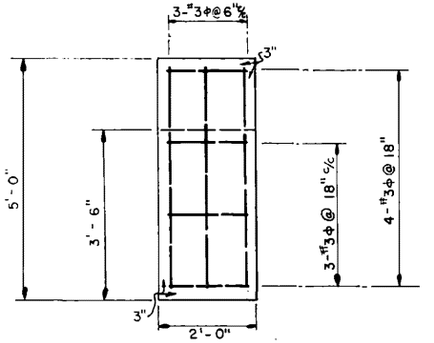
—CONSTRUCTION DETAIL—

5'-0" Unit - 3 - bars 4'-3" lgth. req'd
4 bars 1'-6" lgth. req'd

3'-6" Unit - 3 bars 3'-0" lgth. req'd
3 bars 1'-6" lgth. req'd

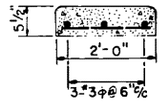
(All bars are #3Φ)

—BAR SCHEDULE—



—PLAN—

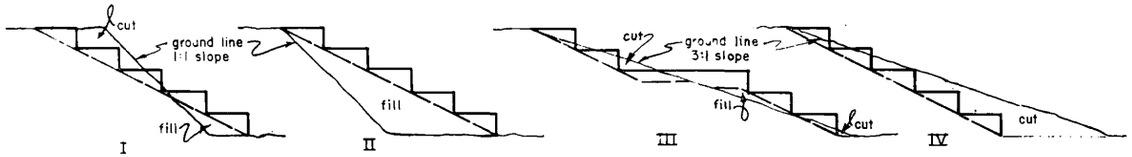
NOTE: Round off top edges of step unit on all four sides.



— SECTION —

—CONCRETE TREAD DETAILS—

TYPE II — PRECAST CONCRETE



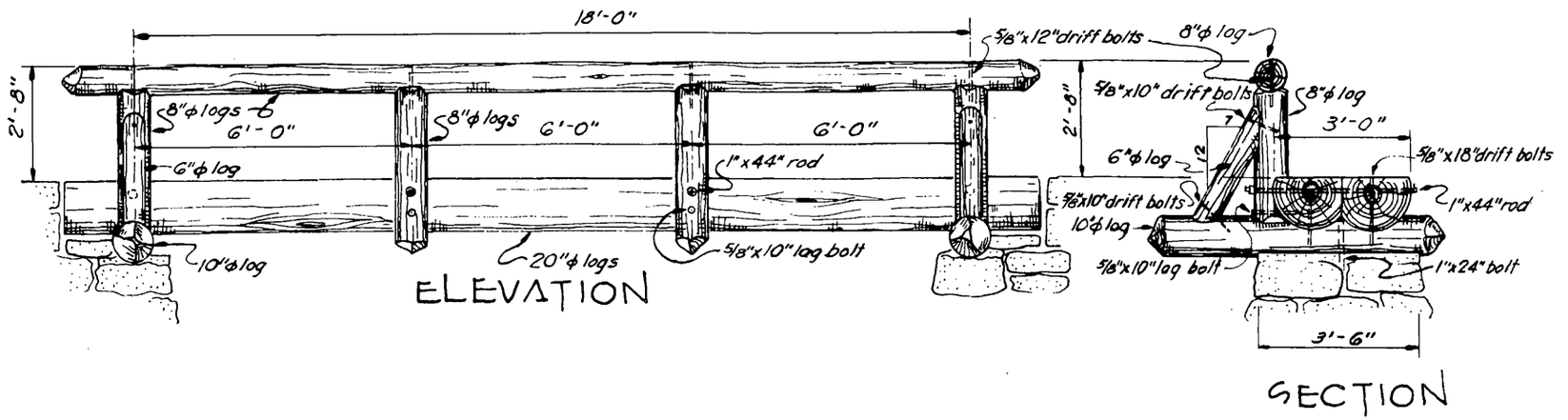
TYPICAL CONSTRUCTION PROFILES

Steps
Native Stone Masonry & Pre-Cast Concrete Types

1 of 1

R-3
Pl. 27T-R3
■ Details Complete
□ Details Incomplete

Forest Service · USDA



GENERAL NOTES:

Logs: All logs to be peeled. Logs buried in or resting on the ground to be juniper & treated with copper napthanate or penta, cold soak process. All other logs to be ponderosa pine. All to be treated with linseed oil. Entire structure to be stained with FPL Light Redwood color.

Rods: Rods to be threaded both ends and fitted with two nuts and malleable iron washers each. Bore holes for rods & machine bolts 1/16" oversize.

Drift Bolts: To have chisel points and to be driven cross grain to logs. Bore holes for drift bolts 1/8" undersize.

Footings: Footings (and piers) shall be specifically designed to fit each circumstance. Two or more bridges supported by piers may be used to span a stream if the site requires it.

Footbridge
Halved Logs

1 of 1

R-3
PI.21G-R3
■ Details Complete
□ Details Incomplete

Forest Service · USDA

Design E

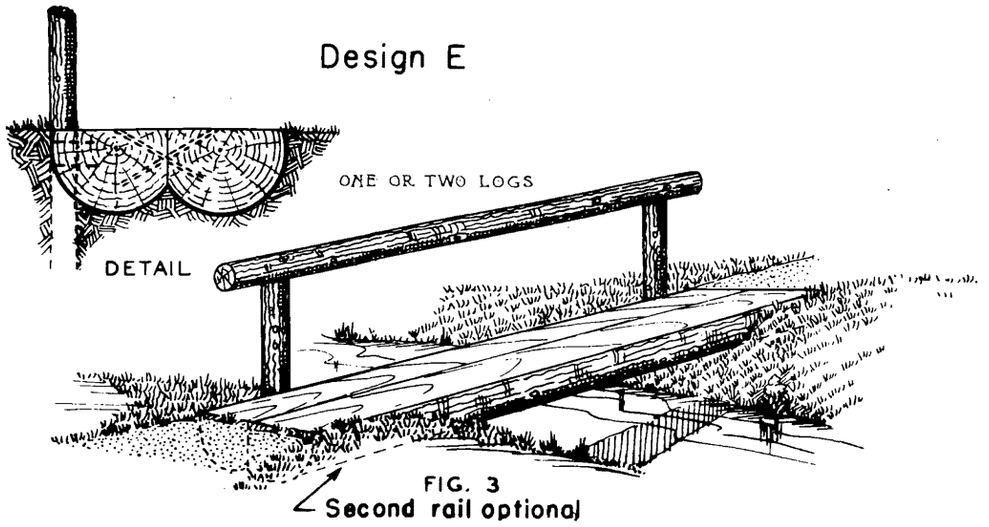


FIG. 3
Second rail optional

Design D

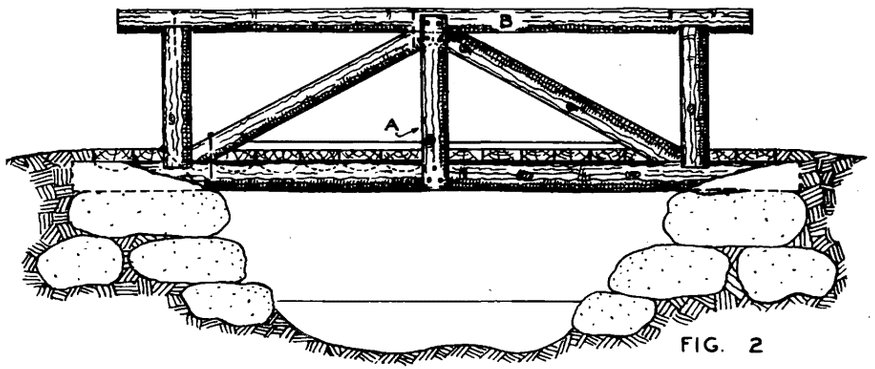
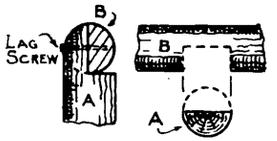


FIG. 2



METHOD OF FASTENING POST "A" TO RAIL "B"
BOTTOM JOINT SAME

DETAIL FOR FIG. 2

Footbridges
Halflog and Plank

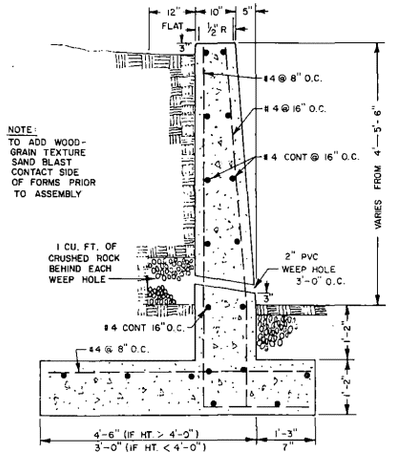
1 of 1

R-3
PI.20 R3

■ Details Complete
□ Details Incomplete

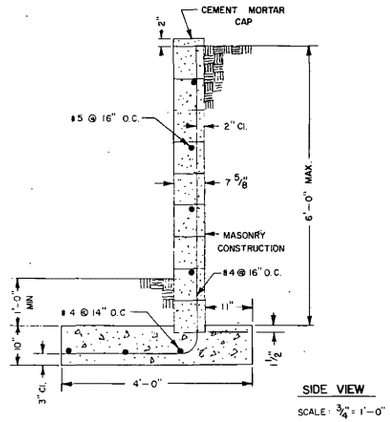
Forest Service · USDA

Retaining Walls
Nine Different Design Types



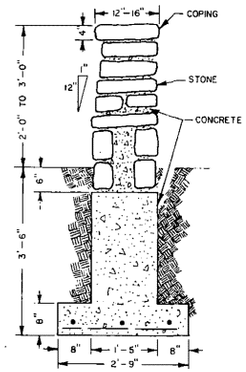
SIDE VIEW
SCALE: 3/4" = 1'-0"

CONCRETE WALL

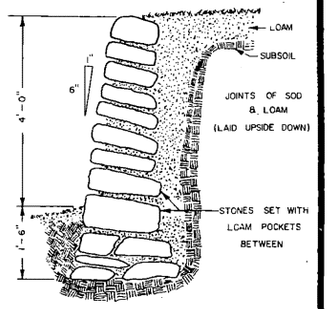


SIDE VIEW
SCALE: 3/4" = 1'-0"

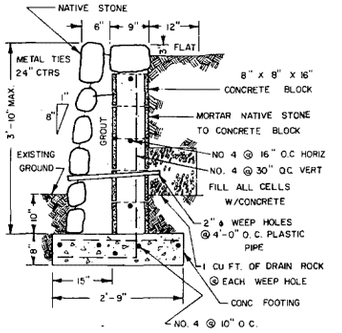
CONCRETE BLOCK WALL



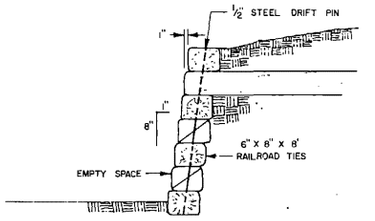
MASONRY WALL
SCALE: 3/4" = 1'-0"



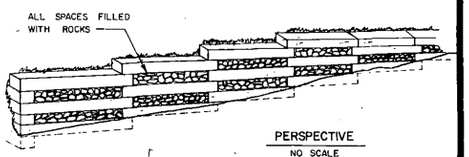
NATIVE ROCK
DRY CONSTRUCTION WALL
SCALE: 3/4" = 1'-0"



STONE VENEER WALL
SCALE: 3/4" = 1'-0"

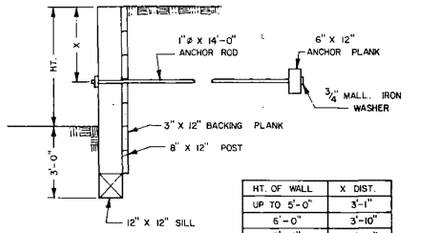


SIDE VIEW SCALE: 3/4" = 1'-0"



PERSPECTIVE
NO SCALE

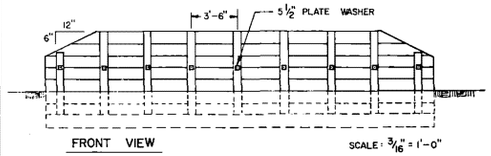
RAILROAD TIE CRIBBING WALL



HT. OF WALL	X DIST.
UP TO 5'-0"	3'-1"
6'-0"	3'-10"
7'-0"	4'-10"

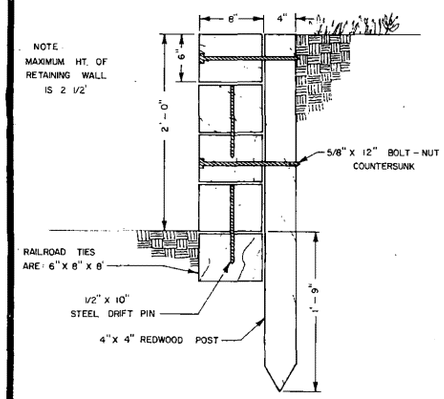
SIDE VIEW
SCALE: 3/4" = 1'-0"

NOTE:
ALL POSTS AND PLANKS ARE TO BE PENTA TREATED

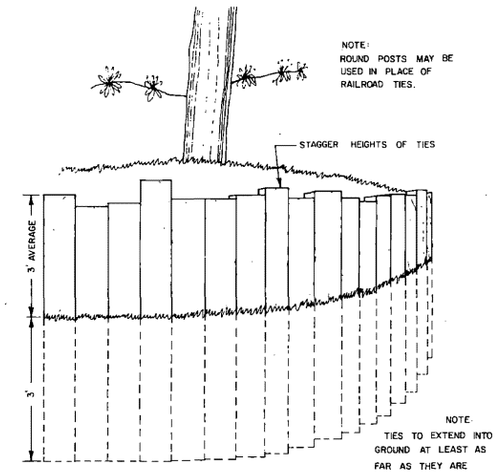


FRONT VIEW
SCALE: 3/16" = 1'-0"

TREATED TIMBER WALL



HORIZ. RAILROAD TIES WALL
SCALE: 1 1/2" = 1'-0"


NOTE:
ROUND POSTS MAY BE USED IN PLACE OF RAILROAD TIES.
STAGGER HEIGHTS OF TIES
3' AVERAGE
3'
NOTE:
TIES TO EXTEND INTO GROUND AT LEAST AS FAR AS THEY ARE EXPOSED ABOVE — NEVER LESS THAN 18" EMBEDDED.

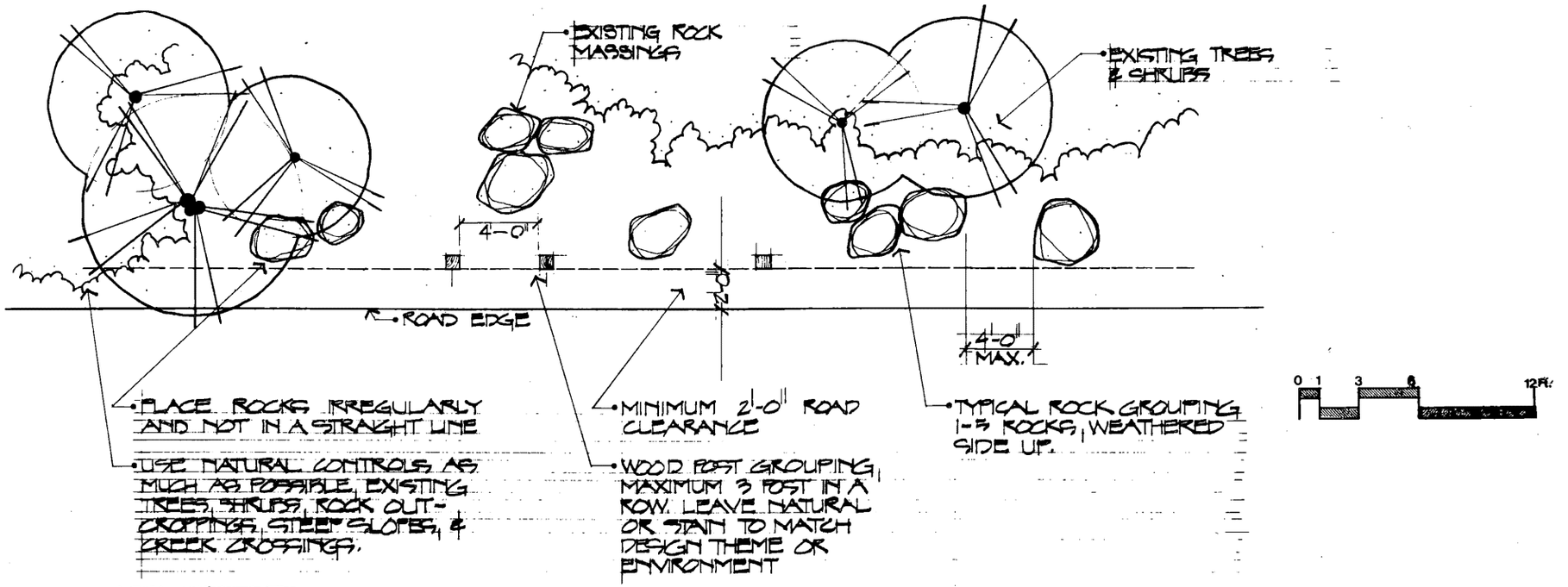
VERT. RAILROAD TIES WALL
SCALE: 3/4" = 1'-0"

1 of 1

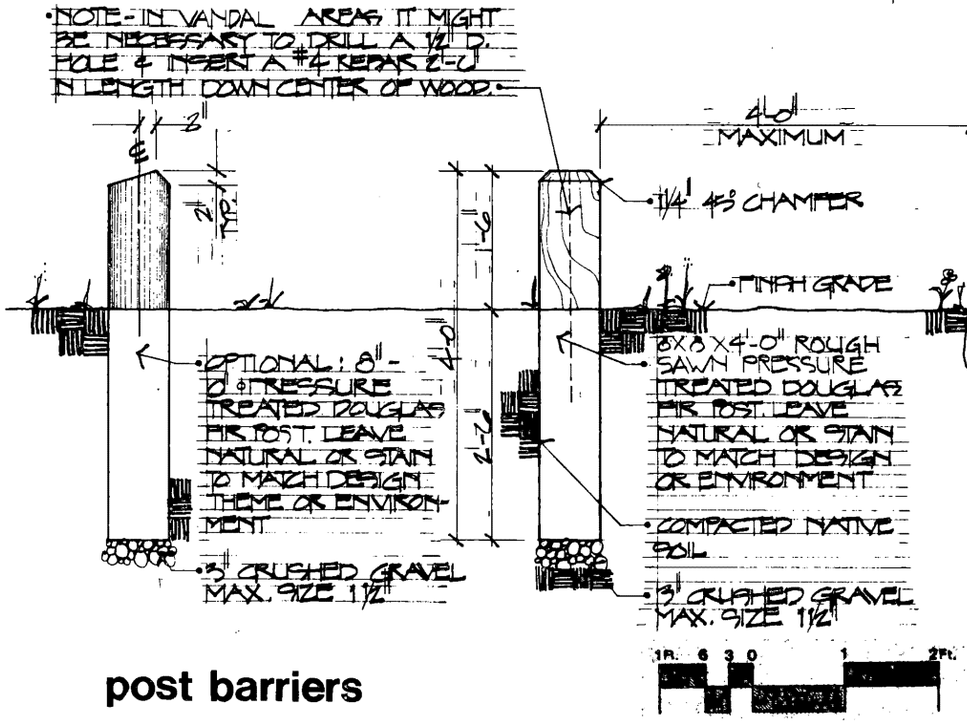
R-2
PI.21-R2-P
■ Details Complete
□ Details Incomplete

Forest Service • USDA

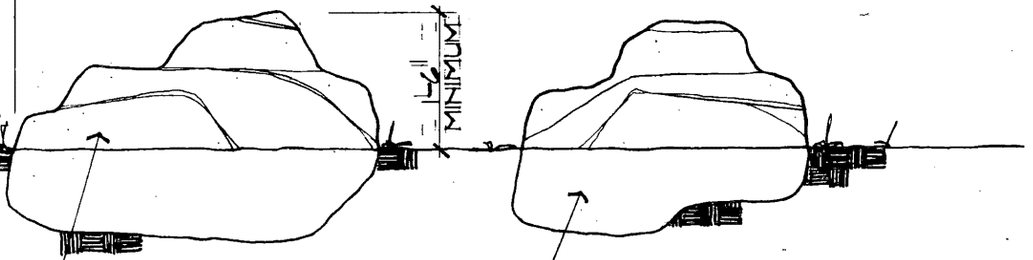
Rock & Post Barriers


EXISTING ROCK MASSINGS
EXISTING TREES & SHRUBS
4'-0"
ROAD EDGE
4'-0" MAX.
PLACE ROCKS IRREGULARLY AND NOT IN A STRAIGHT LINE
USE NATURAL CONTROLS AS MUCH AS POSSIBLE, EXISTING TREES, SHRUBS, ROCK OUTCROPPINGS, STEEP SLOPES, & CREEK CROSSINGS.
MINIMUM 2'-0" ROAD CLEARANCE
WOOD POST GROUPING, MAXIMUM 3 POST IN A ROW. LEAVE NATURAL OR STAIN TO MATCH DESIGN THEME OR ENVIRONMENT
TYPICAL ROCK GROUPING 1-5 ROCKS, WEATHERED SIDE UP.
0 1 3 6 12Ft.

typical plan


NOTE - IN VANDAL AREAS IT MIGHT BE NECESSARY TO DRILL A ½" D. HOLE & INSERT A #4 REBAR 2'-0" IN LENGTH DOWN CENTER OF WOOD.
3"
2" TYP.
4'-0" MAXIMUM
1¼" 45° CHAMFER
FINISH GRADE
1'-6"
4'-0"
2'-6"
OPTIONAL: 8" - 10" PRESSURE TREATED DOUGLAS FIR POST. LEAVE NATURAL OR STAIN TO MATCH DESIGN THEME OR ENVIRONMENT
3" CRUSHED GRAVEL MAX. SIZE 1½"
8"X8"X4'-0" ROUGH SAWN PRESSURE TREATED DOUGLAS FIR POST. LEAVE NATURAL OR STAIN TO MATCH DESIGN OR ENVIRONMENT
COMPACTED NATIVE SOIL
3" CRUSHED GRAVEL MAX. SIZE 1½"
1Ft. 6 3 0 1 2Ft.

post barriers


1½" MINIMUM
ROCK SIZE - 3½ FEET MIN. IN ANY ONE DIRECTION. VOLUME - FOURTEEN CUBIC FEET MIN.
NOTE - PLACE ROCK & POST BARRIERS 2'-0" MIN. FROM EDGE OF TRAVEL WAYS.
SET ROCK BARRIER ⅓ TO ½ BELOW FINISH GRADE. WEATHERED SIDE UP.

rock barriers

elevation

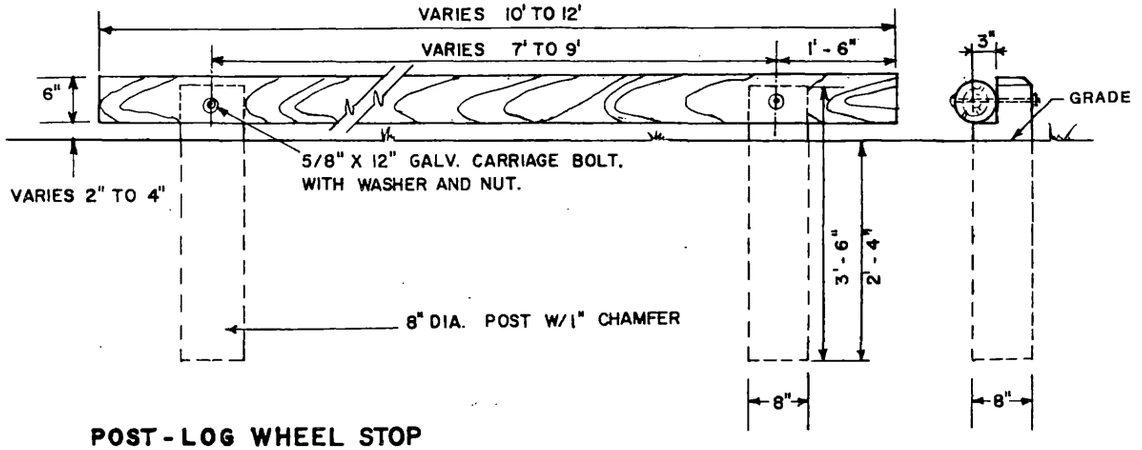
Forest Service · USDA

1 of 1

R-6

A 1606

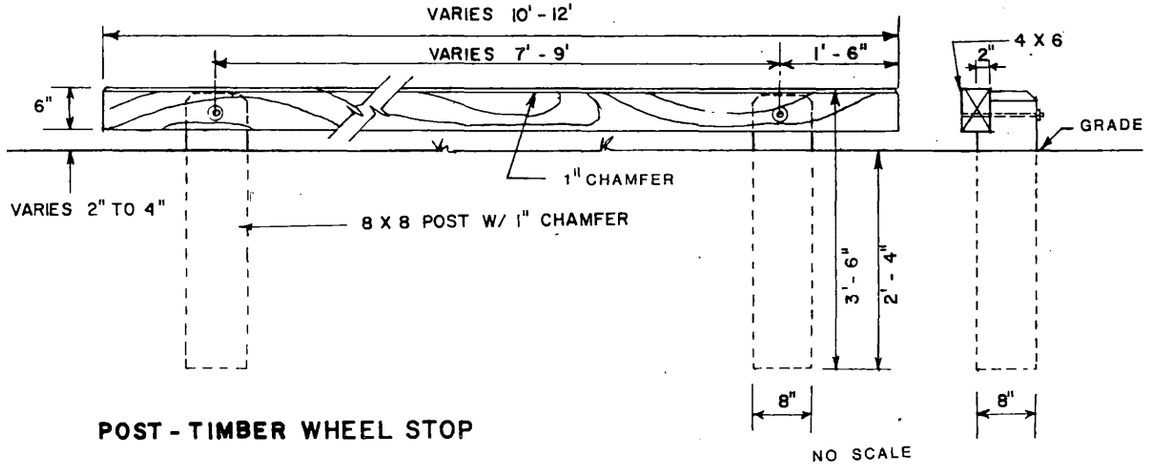
■ Details Complete
□ Details Incomplete



POST - LOG WHEEL STOP

NOTE

1. ALL WOOD SHALL BE PRESSURE TREATED AFTER FABRICATION



POST - TIMBER WHEEL STOP

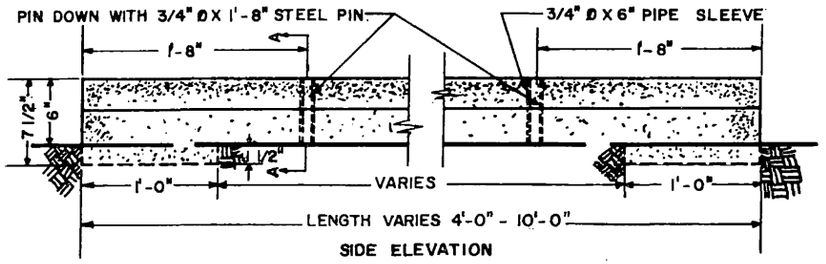
NO SCALE

Wheel Stop
Wood

1 of 1

R-8
PI.22h-7901
■ Details Complete
□ Details Incomplete

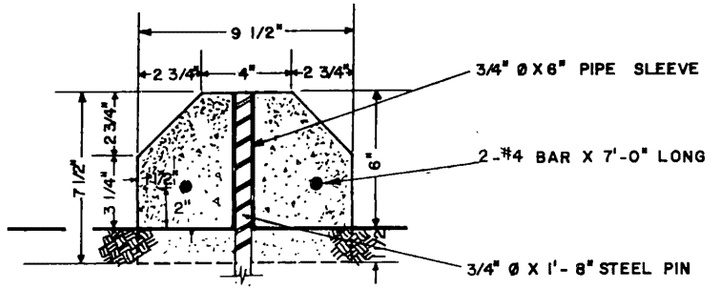
Forest Service · USDA



SIDE ELEVATION

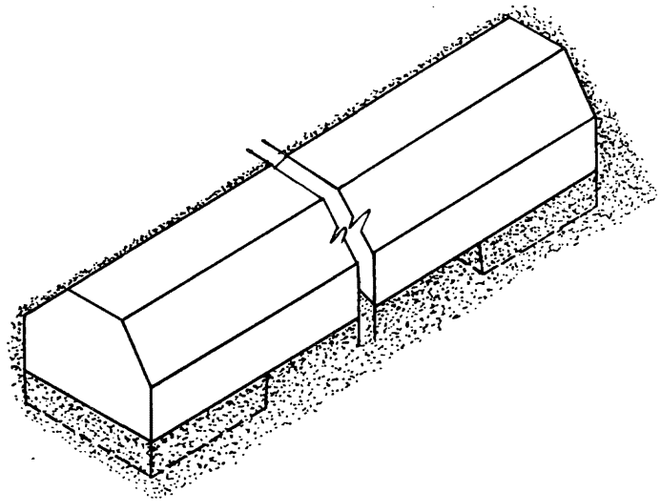
0 3" 6" 9" 1' 2'

SCALE



SCALE 3"= 1'-0"

SECTION A—A



NOTES

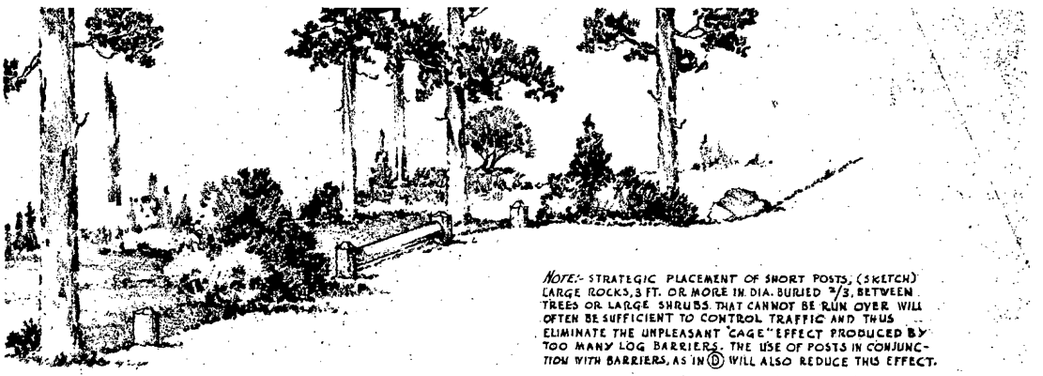
1. THIS BARRIER SHALL BE LIMITED TO USE IN DELINEATED PARKING WHERE SPECIFIED ON THE SITE PLAN.
2. BARRIER SHALL BE SET FLUSH ON ASPHALT SURFACE.
3. CHAMFER EDGES.

Wheel Stop Concrete

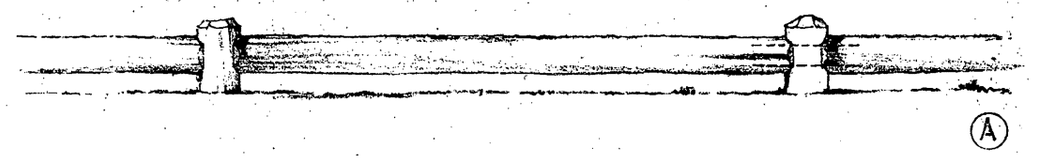
1 of 1

R-8
P1.22h-7902
■ Details Complete
□ Details Incomplete

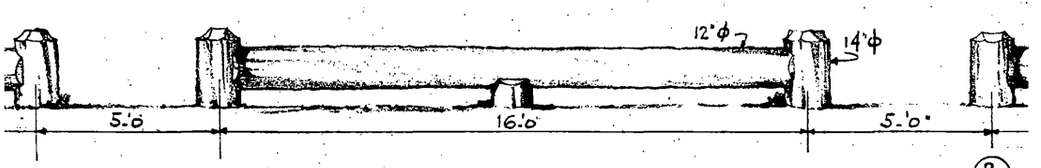
Forest Service · USDA



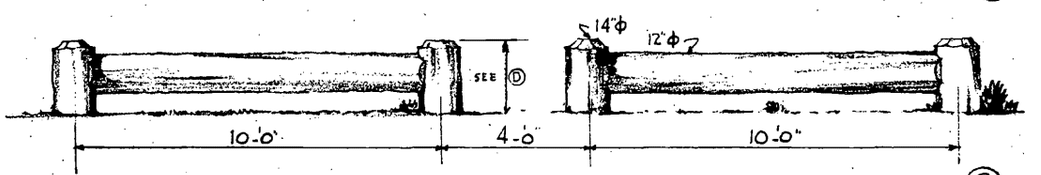
NOTE:- STRATEGIC PLACEMENT OF SHORT POSTS, (SKETCH) LARGE ROCKS, 3 FT. OR MORE IN DIA. BURIED 1/3, BETWEEN TREES OR LARGE SHRUBS THAT CANNOT BE RUN OVER WILL OFTEN BE SUFFICIENT TO CONTROL TRAFFIC AND THUS ELIMINATE THE UNPLEASANT "CAGE" EFFECT PRODUCED BY TOO MANY LOG BARRIERS. THE USE OF POSTS IN CONJUNCTION WITH BARRIERS, AS IN (D) WILL ALSO REDUCE THIS EFFECT.



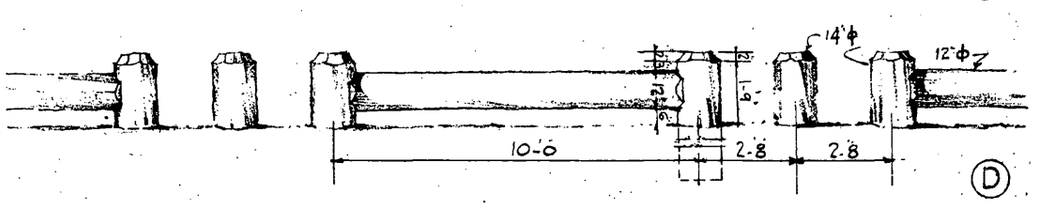
(A)



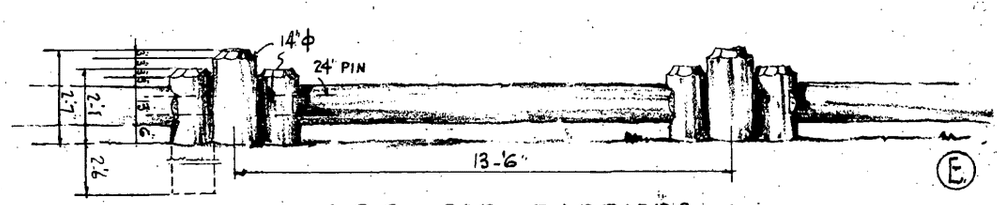
(B)



(C)



(D)



(E)

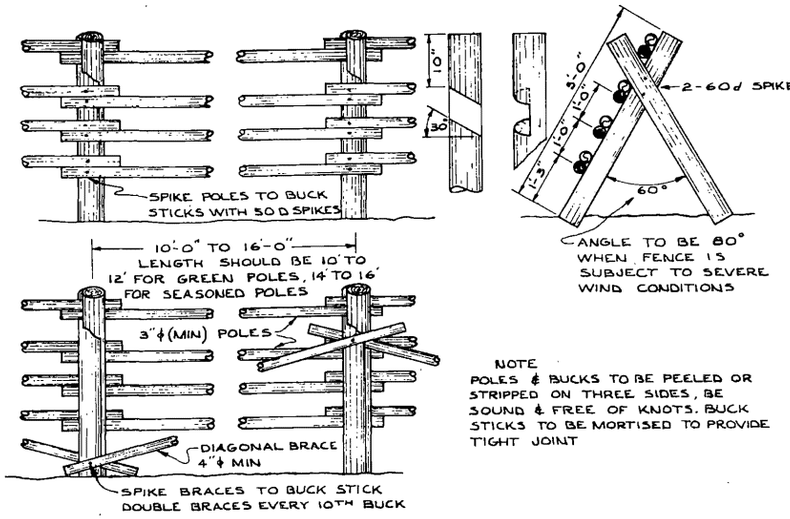
LOG CAR BARRIERS
SCALE ½" = 1'-0"

Forest Service · USDA

1 of 1

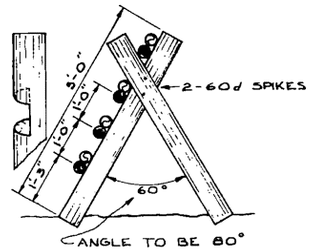
R-6
Pl. C-9001
■ Details Complete
□ Details Incomplete

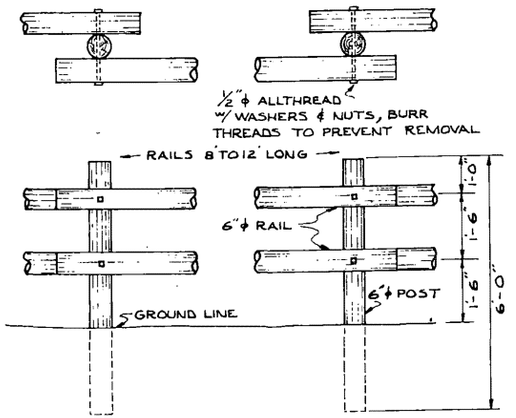
Vehicle Barriers
Log


10"
30°
SPIKE POLES TO BUCK STICKS WITH 50 D SPIKES
10'-0" TO 16'-0" LENGTH SHOULD BE 10' TO 12' FOR GREEN POLES, 14' TO 16' FOR SEASONED POLES
3"ϕ (MIN) POLES
DIAGONAL BRACE 4"ϕ MIN
SPIKE BRACES TO BUCK STICK DOUBLE BRACES EVERY 10TH BUCK
NOTE
POLES & BUCKS TO BE PEELED OR STRIPPED ON THREE SIDES, BE SOUND & FREE OF KNOTS. BUCK STICKS TO BE MORTISED TO PROVIDE TIGHT JOINT

BUCK AND POLE FENCE

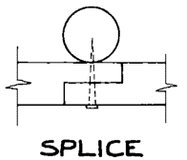
1/2" = 1'-0"





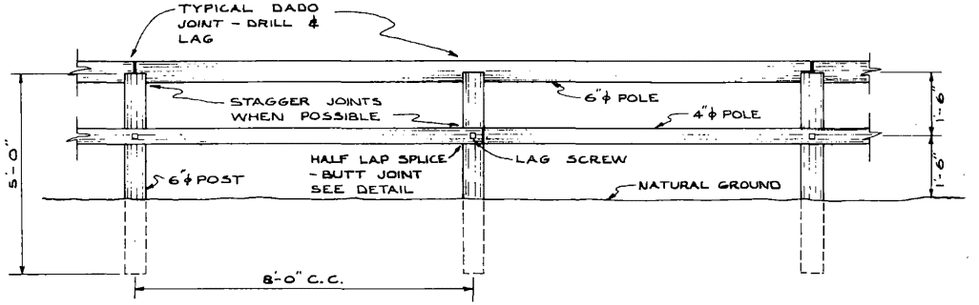
POST AND RAIL FENCE

1/2" = 1'-0"



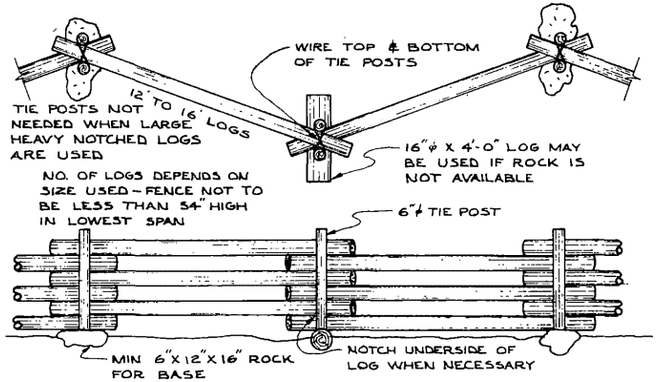
SPLICE DETAIL

NO SCALE



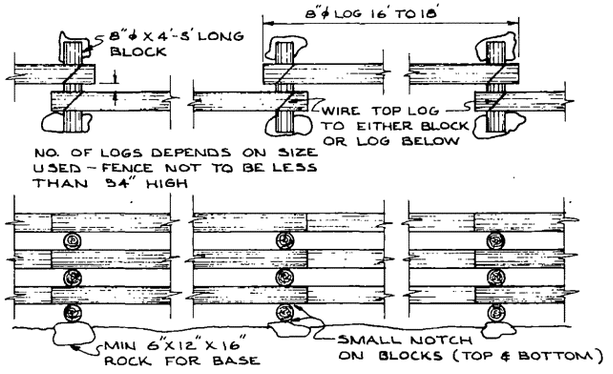
POST AND POLE FENCE

1/2" = 1'-0"


WIRE TOP & BOTTOM OF TIE POSTS
12' TO 16' LOGS
TIE POSTS NOT NEEDED WHEN LARGE HEAVY NOTCHED LOGS ARE USED
16"ϕ X 4'-0" LOG MAY BE USED IF ROCK IS NOT AVAILABLE
NO. OF LOGS DEPENDS ON SIZE USED - FENCE NOT TO BE LESS THAN 54" HIGH IN LOWEST SPAN
6"ϕ TIE POST
MIN 6"X12"X16" ROCK FOR BASE
NOTCH UNDERSIDE OF LOG WHEN NECESSARY

WORM FENCE

1/4" = 1'-0"


8"ϕ LOG 16' TO 18'
8"ϕ X 4'-5' LONG BLOCK
WIRE TOP LOG TO EITHER BLOCK OR LOG BELOW
NO. OF LOGS DEPENDS ON SIZE USED - FENCE NOT TO BE LESS THAN 54" HIGH
MIN 6"X12"X16" ROCK FOR BASE
SMALL NOTCH ON BLOCKS (TOP & BOTTOM)

LOG AND BLOCK FENCE

1/4" = 1'-0"

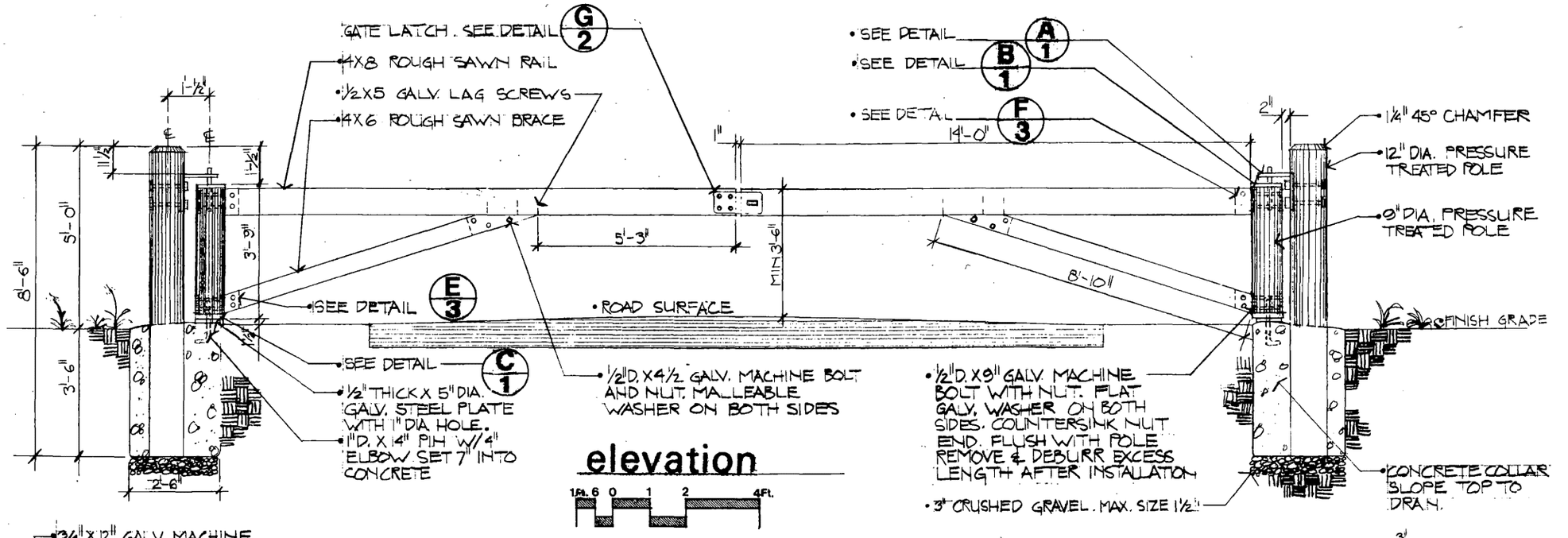
Fences: Rustic

1 of 1

R-2
PI.21-R2-F
■ Details Complete
□ Details Incomplete

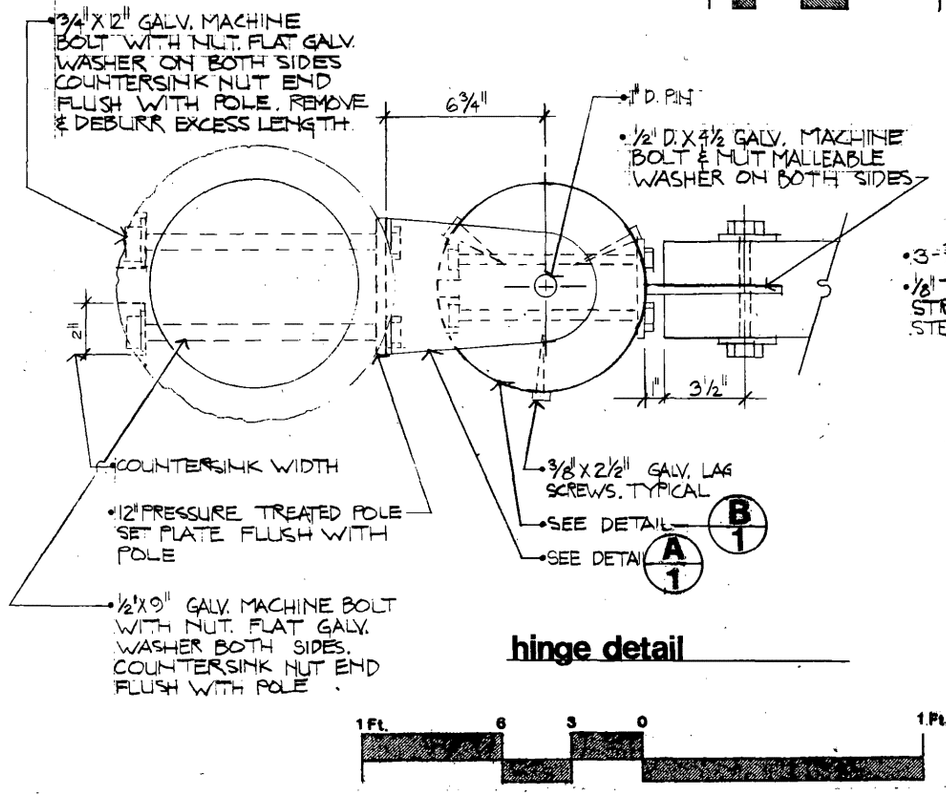
Forest Service · USDA

Wood Gate
Double Lane


GATE LATCH. SEE DETAIL G/2
4X8 ROUGH SAWN RAIL
½X5 GALV. LAG SCREWS
4X6 ROUGH SAWN BRACE
SEE DETAIL A/1
SEE DETAIL B/1
SEE DETAIL F/3
1¼" 45° CHAMFER
12" DIA. PRESSURE TREATED POLE
9" DIA. PRESSURE TREATED POLE
14'-0"
5'-3"
MIN 3'-6"
8'-10"
SEE DETAIL E/3
ROAD SURFACE
FINISH GRADE
SEE DETAIL C/1
½" THICK X 5" DIA. GALV. STEEL PLATE WITH 1" DIA HOLE.
1" D. X 14" PIN W/ 4" ELBOW SET 7" INTO CONCRETE
½" D. X 4½ GALV. MACHINE BOLT AND NUT. MALLEABLE WASHER ON BOTH SIDES
½" D. X 9" GALV. MACHINE BOLT WITH NUT. FLAT GALV. WASHER ON BOTH SIDES. COUNTERSINK NUT END. FLUSH WITH POLE REMOVE & DEBURR EXCESS LENGTH AFTER INSTALLATION
3" CRUSHED GRAVEL. MAX. SIZE 1½"
CONCRETE COLLAR SLOPE TOP TO DRAIN
8'-6"
5'-0"
3'-6"
3'-9"
2'-6"

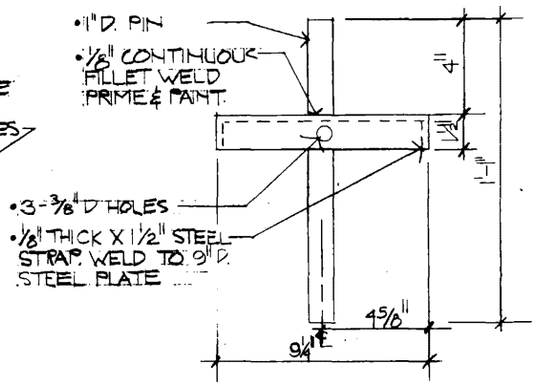
elevation

1Ft. 6 0 1 2 4Ft.

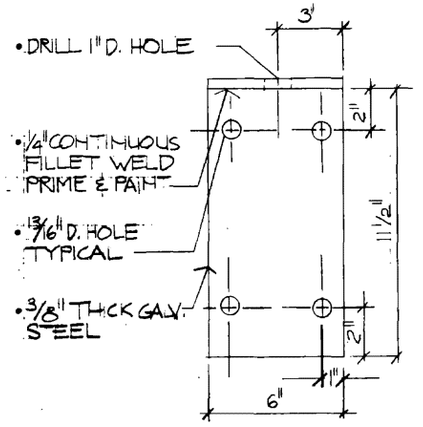

¾" X 12" GALV. MACHINE BOLT WITH NUT. FLAT GALV. WASHER ON BOTH SIDES COUNTERSINK NUT END FLUSH WITH POLE. REMOVE & DEBURR EXCESS LENGTH
6¾"
1" D. PIN
½" D. X 4½ GALV. MACHINE BOLT & NUT MALLEABLE WASHER ON BOTH SIDES
2"
3½"
COUNTERSINK WIDTH
12" PRESSURE TREATED POLE SET PLATE FLUSH WITH POLE
½" X 9" GALV. MACHINE BOLT WITH NUT. FLAT GALV. WASHER BOTH SIDES. COUNTERSINK NUT END FLUSH WITH POLE
⅜" X 2½" GALV. LAG SCREWS. TYPICAL
SEE DETAIL B/1
SEE DETAIL A/1

hinge detail

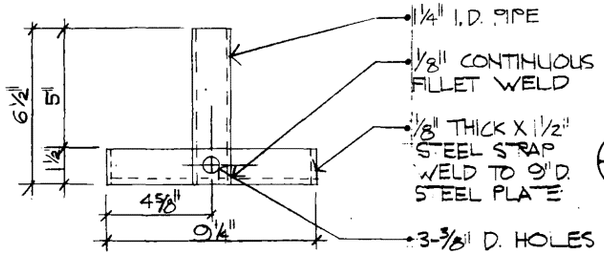
1 Ft. 6 3 0 1 Ft.



B/1 top pin & receptacle



A/1 pin holder



C/1 bottom pin receptacle

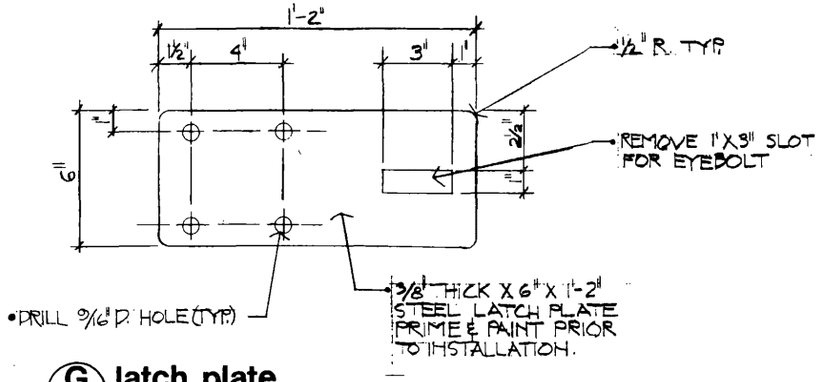
Wood Gate
Double Lane

1 of 3

R-6
A-1402-A
■ Details Complete
□ Details Incomplete

Forest Service · USDA

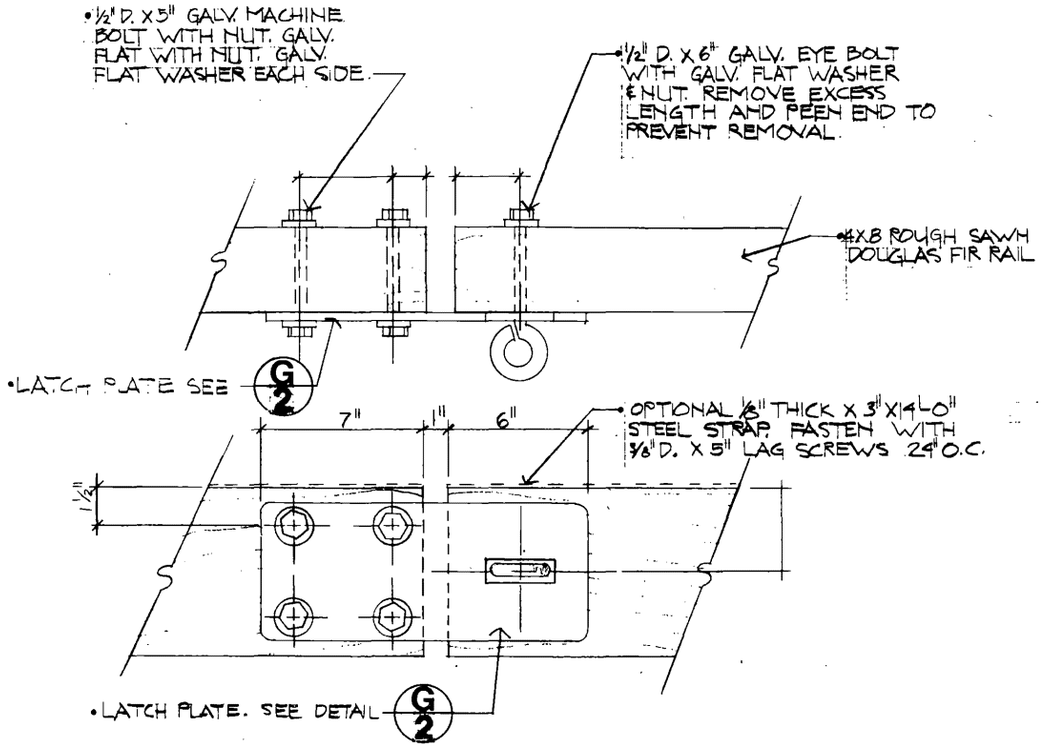
FOREST SERVICE USDA DEPARTMENT OF AGRICULTURE



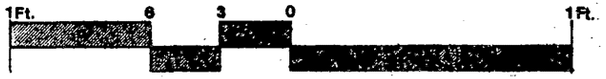
G/2 latch plate

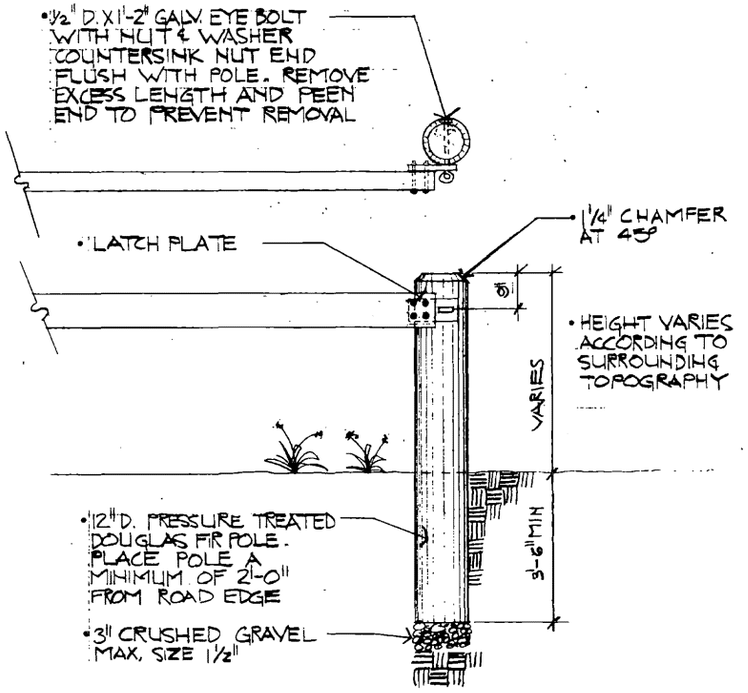
notes

- GATE CHECK POLE "I" TO BE USED TO SECURE GATE WHEN GATE IS IN OPEN POSITION
- CHECK POLE CAN ALSO BE USED TO SECURE GATE IN CLOSED POSITION WHEN ONLY ONE RAIL IS USED

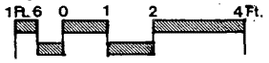

½" D. X 5" GALV. MACHINE BOLT WITH NUT. GALV. FLAT WITH NUT. GALV. FLAT WASHER EACH SIDE.
½" D. X 6" GALV. EYE BOLT WITH GALV. FLAT WASHER & NUT. REMOVE EXCESS LENGTH AND PEEN END TO PREVENT REMOVAL.
4X8 ROUGH SAWN DOUGLAS FIR RAIL
LATCH PLATE SEE G/2
7"
1"
6"
OPTIONAL ⅛" THICK X 3" X 1'-0" STEEL STRAP. FASTEN WITH ⅜" D. X 5" LAG SCREWS 24" O.C.
1½"
LATCH PLATE. SEE DETAIL G/2

H/2 gate latch




½" D. X 1'-2" GALV. EYE BOLT WITH NUT & WASHER COUNTERSINK NUT END FLUSH WITH POLE. REMOVE EXCESS LENGTH AND PEEN END TO PREVENT REMOVAL
LATCH PLATE
¼" CHAMFER AT 45°
6"
HEIGHT VARIES ACCORDING TO SURROUNDING TOPOGRAPHY
VARIES
12" D. PRESSURE TREATED DOUGLAS FIR POLE. PLACE POLE A MINIMUM OF 2'-0" FROM ROAD EDGE
3'-6" MIN
3" CRUSHED GRAVEL MAX. SIZE 1½"

I/2 gate check pole



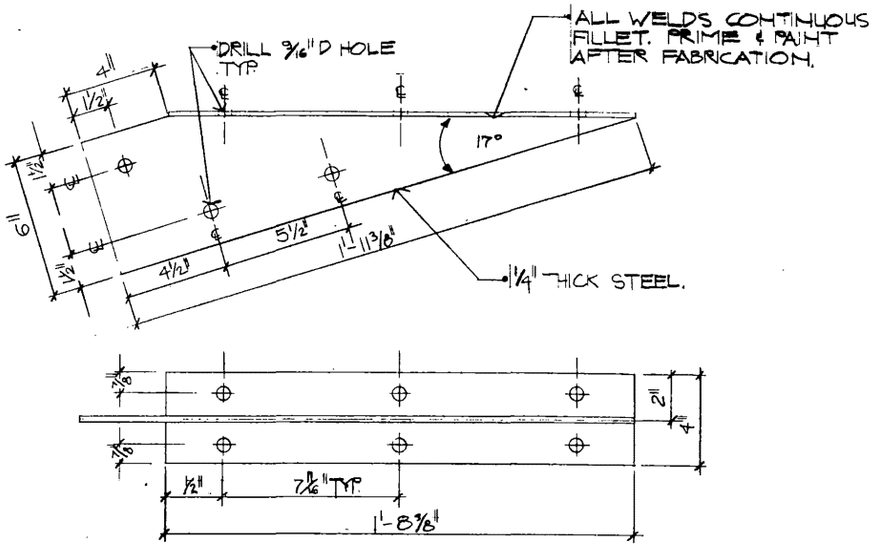
Wood Gate
Double Lane

2 of 3

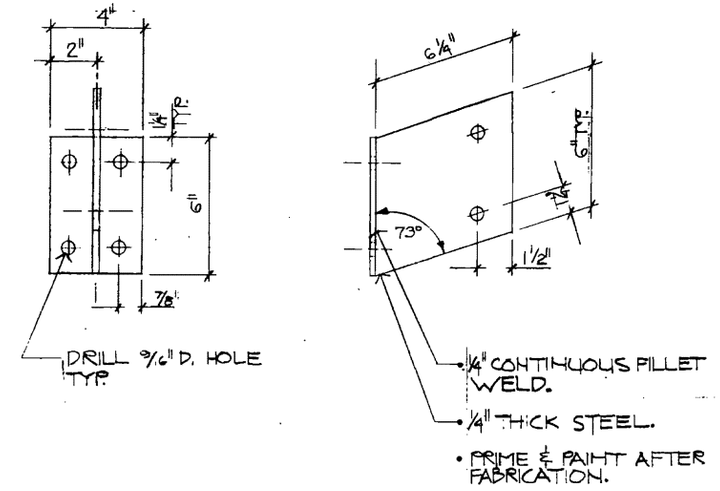
R-6
A-1402-B
■ Details Complete
□ Details Incomplete

Forest Service · USDA

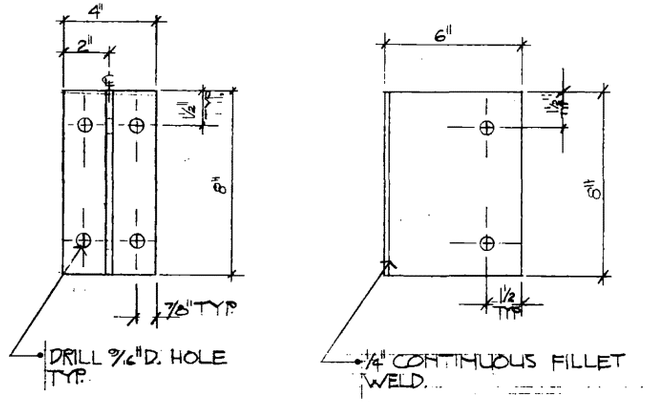
FOREST SERVICE · DEPARTMENT OF AGRICULTURE



D 3 bracket



E 3 bracket



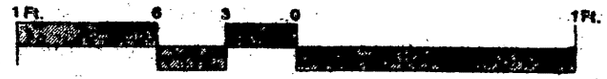
F 3 bracket

notes

✳ FINISHES

- 12" POLES - OLYMPIC SOLID COLOR STAIN "NEW BARK" OR APPROVED EQUAL
- 9" POLES - OLYMPIC SOLID COLOR STAIN "BUTTERNUT" OR APPROVED EQUAL
- 4X6's & 4X8's - OLYMPIC SOLID COLOR STAIN "BUTTERNUT" OR APPROVED EQUAL
- OPTIONAL ROUTED DESIGN - RODDA ACRYLIC LATEX (EXTERIOR) COLOR #1-4-7W. SEMI-GLOSS OR APPROVED EQUAL
- METAL FITTINGS & BRACKETS - 2 COATS RUST INHIBITIVE PRIMER - 2 COATS SEMI GLOSS ENAMEL TO MATCH OLYMPIC SOLID COLOR STAIN "BUTTERNUT OR APPROVED EQUAL.

✳ OR APPROVED COLOR SCHEME TO MATCH PROJECT THEME.



Wood Gate
Double Lane

3 of 3

R-6
A-1402-C
■ Details Complete
□ Details Incomplete

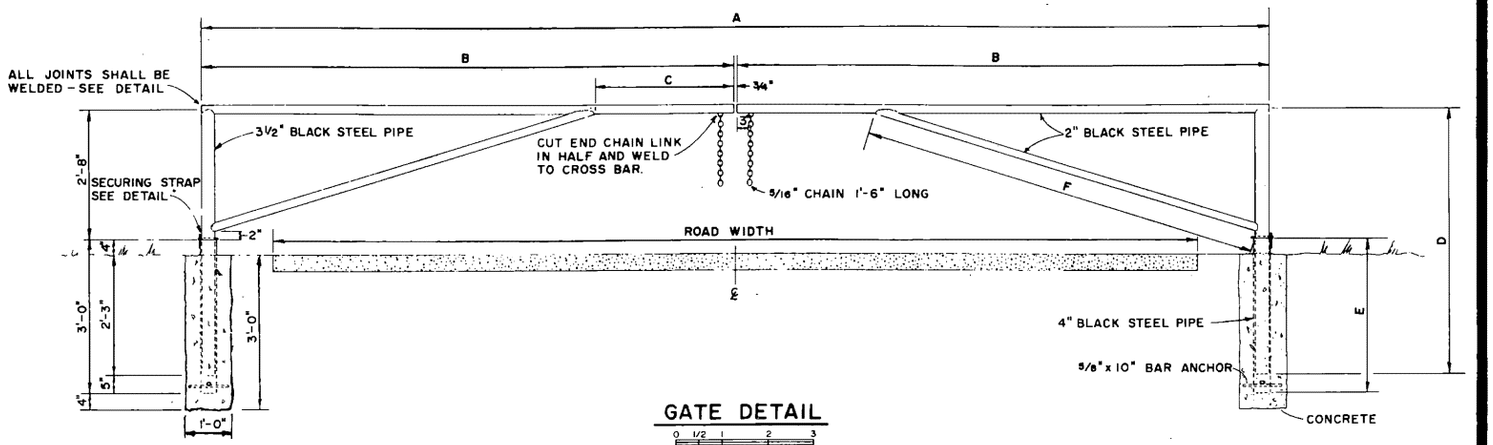
Forest Service · USDA

FOREST SERVICE USDA DEPARTMENT OF AGRICULTURE

Lightweight Steel Gate

MATERIAL LIST

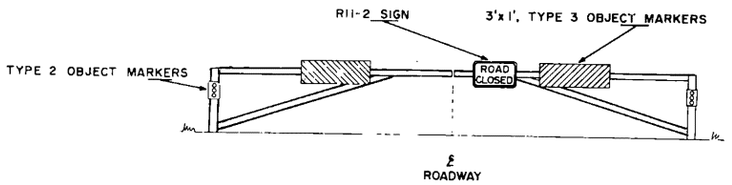
ITEM	QUANTITIES				REMARKS
GATES	21 FOOT	23 FOOT	25 FOOT	27 FOOT	
2" BLACK STEEL PIPE	38 L.F.	41 L.F.	44 L.F.	47 L.F.	AS SPECIFIED
3½" BLACK STEEL PIPE	10.5 L.F.	10.5 L.F.	10.5 L.F.	10.5 L.F.	AS SPECIFIED
4" BLACK STEEL PIPE	6 L.F.	6 L.F.	6 L.F.	6 L.F.	AS SPECIFIED
5/16" CHAIN LINKS	2 EA.	2 EA.	2 EA.	2 EA.	1'6" IN LENGTH
BAR ANCHORS	4 EA.	4 EA.	4 EA.	4 EA.	5/8"X10" STEEL ROD
SECURING STRAPS	2 EA.	2 EA.	2 EA.	2 EA.	4"X1½"X ½" STEEL BAR
BAR LOCKS	2 EA.	2 EA.	2 EA.	2 EA.	5/8" X 5" STEEL ROD
REDWOOD POSTS OR TREATED TIMBERS	2 EA.	2 EA.	2 EA.	2 EA.	4"X4"X6" AS SPECIFIED
L-SHAPED LAG SCREWS	2 EA.	2 EA.	2 EA.	2 EA.	3/8" X 6"
PRIMER & PAINT	–	–	–	–	AS SPECIFIED
SIGNS & MARKERS	–	–	–	–	AS SPECIFIED
CU. YD. OF CONCRETE	½	½	½	½	AS SPECIFIED



GATE DETAIL

0 1/2 1 2 3 SCALE IN FEET

SIGNS SHALL BE BOLTED THROUGH CENTER OF PIPE COMPLETE WITH LOCK WASHERS.



MINIMUM MARKING REQUIREMENTS

NO SCALE

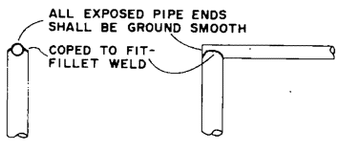
STRIPS ON TYPE 3 OBJECT MARKERS SHALL BE REFLECTORIZED WHITE AND REFLECTORIZED RED.

PIPE LENGTH CHART

ROAD WIDTH	A	B	C	D*	E	F*
12'-18'	21'-0"+	10'-6"	2'-6"±	5'-3"	3'-0"	8'-4 9/16"
20'	23'-0"+	11'-6"	3'-0"±	5'-3"	3'-0"	8'-10 9/16"
22'	25'-0"+	12'-6"	3'-6"±	5'-3"	3'-0"	9'-4 3/32"
24'	27'-0"+	13'-6"	4' 0"±	5'-3"	3'-0"	9'-9 7/8"

*CUT LENGTH BEFORE COPING AND WELDING

**GALVANIZED IRON PIPE

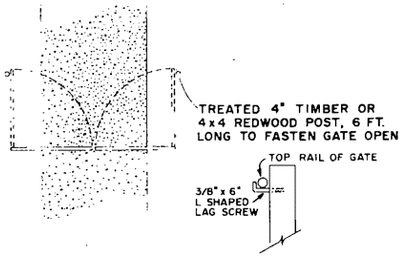


TYPICAL JOINT DETAIL

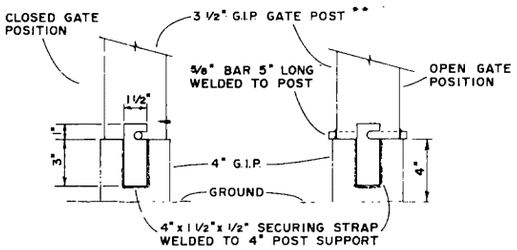
NO SCALE

CLEAN WELD AREAS OF ALL LOOSE MATERIAL AND SCALE

PAINT LOOPS AND WELDED AREAS WITH 2 COATS OF ALUMINUM "DERUSTO" PAINT OR EQUAL



GATE CATCH



SECURING STRAP DETAIL

0 1 2 3 6 12 SCALE IN INCHES

1 of 1

R-4

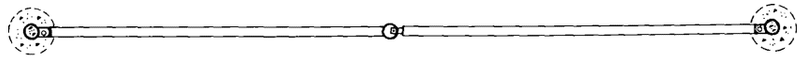
■ Details Complete
□ Details Incomplete

Forest Service • USDA

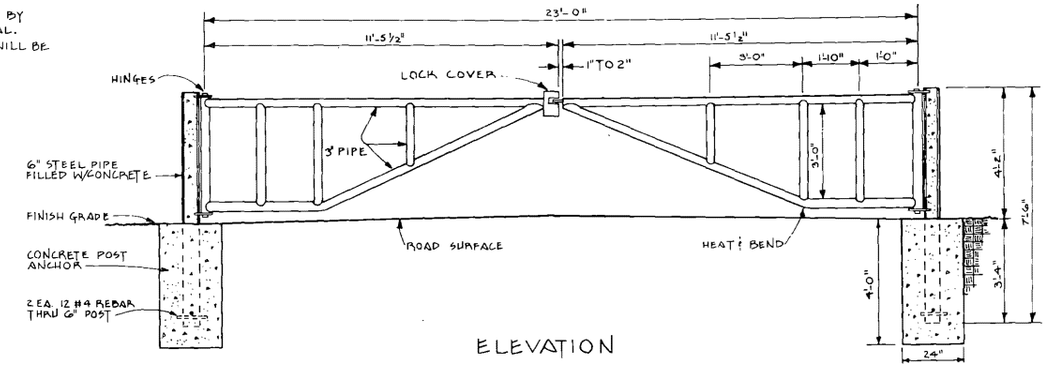
MATERAL LIST

ITEM	QTY.		REMARKS
GATES	14 FOOT	23 FOOT	
6" BLACK STEEL PIPE	15'	16'	AS SPECIFIED
3" BLACK STEEL PIPE	42'	64'	AS SPECIFIED
2½" BLACK STEEL PIPE	½'	1'	AS SPECIFIED
STEEL LOCK BAR	1	1	½" X 2½" X 10"
STEEL PLATE HINGES	2	4	¾" X 5" X 7"
12" # 4 REBAR	4	4	2 EA. 6" PIPE
L-SHAPED LAG SCREWS	1	2	⅜" X 8" (GALV.)
REDWOOD POSTS OR TREATED TIMBER	1	2	6" X 6" X 6'
CU./YDS. CONCRETE	1	1	
SIGNS & REFLECTORS	–	–	AS SPECIFIED
PRIMER & PAINT	–	–	AS SPECIFIED
END PLATE	1	1	¼" X 6" Ø
END PLATE	1	1	¼" X 6" Ø

NOTES:
1 ALL PIPE IS TO BE STANDARD GAUGE STEEL.
2 TAPER AND MOLD ALL PIPE JOINTS AS NECESSARY.
3 WELD ALL JOINTS UNLESS OTHERWISE SPECIFIED.
4 PAINT ALL EXPOSED METAL SURFACES WITH ONE COAT OF METAL PRIMER AND TWO COATS OF POLY SILICONE HIGH GLOSS ENAMEL, "FOREST SERVICE BROWN, 120-60", AS MANUFACTURED BY BENJAMIN MOORE & CO., OR APPROVED EQUAL.
5 SIGNS, REFLECTORS, MARKERS, LOCKS, ETC. WILL BE PROVIDED BY THE FOREST SERVICE.



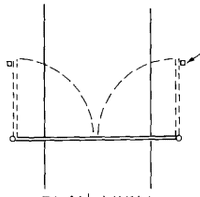
PLAN VIEW



ELEVATION

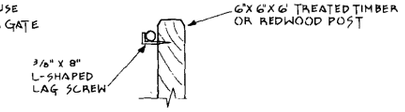
23-FOOT GATE

SCALE (FEET)
0 2 4 6



6"X 6" X 6' TREATED TIMBER (AS SPECIFIED) OR 6"X 6"X 6' REDWOOD POST TO FASTEN OPEN GATE (USE CHAIN AND PADLOCK TO LOCK GATE OPEN IF REQUIRED).

PLAN VIEW
NO SCALE

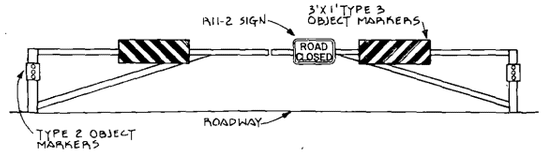


DETAIL

GATE CATCH

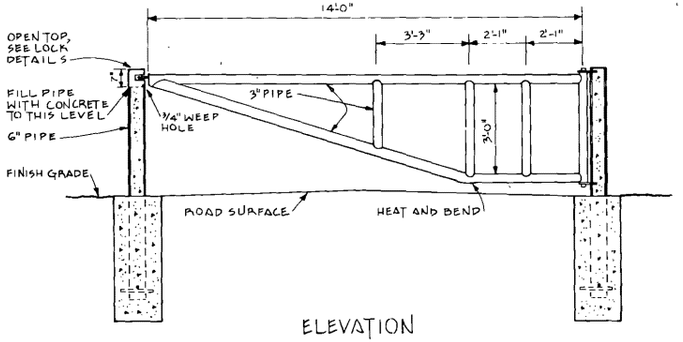
SIGNS SHALL BE BOLTED THROUGH CENTER OF PIPE COMPLETE WITH LOCK WASHERS

STRIPES ON TYPE 3 OBJECT MARKERS SHALL BE REFLECTORIZED WHITE AND RED



MINIMUM MARKING REQUIREMENTS

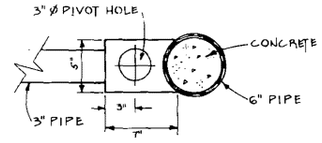
NO SCALE



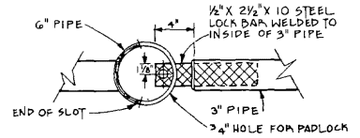
ELEVATION

14-FOOT GATE

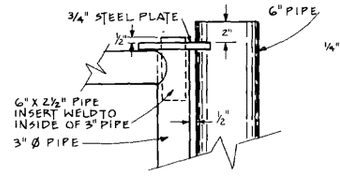
SCALE (FEET)
0 2 4 6



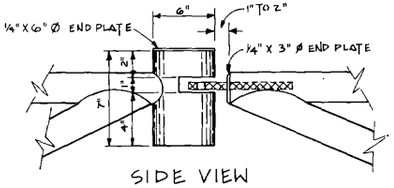
PLAN VIEW



PLAN VIEW



SIDE VIEW



SIDE VIEW

HINGE DETAILS

LOCK DETAILS

SCALE (INCHES)
0 4 8 12

Steel Gates
One & Two Lane Road Widths For High "and_ll m_r_

1 of 1

R-4

Details Complete
Details Incomplete

Forest Service · USDA